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ANNUAL REPORT

ON THE

HEALTH AND SANITARY CONDITIONS

OF THE

COUNTY OF ABERDEEN

FOR THE YEAR

1925.

ABERDEEN:
PRINTED BY G. CORNWALL & SONS.

1926.

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County Public Health Department.

MEDICAL, PROFESSIONAL AND CLERICAL STAFF.

CHIEF MEDICAL OFFICER—Dr. Harry J. Rae.

ASSISTANT MEDICAL OFFICERS OF HEALTH.

1. Dr. A. F. MacBean, Senior Assistant Medical Officer.
2. Dr. H. D. Robb, Second Assistant Medical Officer.
3. Dr. D. I. Walker, Third Assistant Medical Officer.
4. Dr. P. L. Mitchell, Fourth Assistant Medical Officer.

BACTERIOLOGY—Dr. J. F. Tocher, 41½, Union Street, Aberdeen, Director of Laboratory—(Part-time).

OPHTHALMIC SURGEON—Dr. A. R. Galloway, 250, Union Street, Aberdeen—(Part-time).

DENTISTS.

1. Mr. J. Chalmers, L.D.S.
2. Mr. W. Angus, L.D.S., Inverurie—(Part-time).
3. Mr. G. Baxter, L.D.S., Peterhead—(Part-time).
4. Mr. J. W. Mackay, L.D.S., Huntly—(Part-time).
5. Mr. J. St. John Smith, L.D.S., Fraserburgh—(Part-time).
6. Mr. A. C. Wallace, L.D.S., Peterhead—(Part-time).

REMEDIAL EXPERT AND MASSEUSE—Miss M. M. Telfer.

TUBERCULOSIS NURSE—Nurse M. A. Durward.

CLERICAL STAFF.

1. Miss N. Meff.
2. Miss D. Ednie.
3. Miss E. Chatterton.
4. Miss N. Smith.
5. Miss D. Innes.

(All the above officials are whole-time unless otherwise stated.)

CONTENTS.

SECTION I.

GENERAL PUBLIC HEALTH.

1. Vital Statistics—

PAGE
Population 9
Marriages 9
Births 9
Deaths and Death-rate 10
Causes of Deaths 10

2. Infectious Diseases— 11

(a) Notifiable Infectious Diseases—

Scarlet Fever 12
Diphtheria 16
Typhoid Fever 21
Small-pox 22
Acute Infective Jaundice 23
Pneumonia 23
Malaria 23
Dysentery 24
Encephalitis Lethargica 24
Acute Anterior Poliomyelitis 24
Cerebro-spinal Fever 24
Erysipelas 24

(b) Non-notifiable Infectious Diseases—

Measles 24
Whooping Cough 25
Chicken-pox 25

3. Housing Conditions and Sanitation 25

4. Factory and Workshops Act, 1901 26

SECTION II.

TUBERCULOSIS SERVICES.

Survey of Scheme 29
Notifications 37
Bacteriological Examinations 42
Mortality 43
Institutional Treatment 46
Domiciliary Treatment 50
Dispensary Treatment 52
Special Methods of Treatment—
    (a) Artificial Light Treatment 53
    (b) Remedial Exercises and Massage 57
Summary 63

SECTION III.

MATERNITY AND CHILD WELFARE SERVICES.

Births 67
Infantile Mortality 68
Maternal Mortality 69
Ophthalmia Neonatorum 71
Pneumonia 75

Section IV.

PAGE

SCHOOL MEDICAL SERVICES . . . 83

Section V.

NURSING SERVICES 111

Section VI.

VENEREAL DISEASES SERVICES . . . 117

Section VII.

BACTERIOLOGICAL SERVICES 131

Section VIII.

REPORT REGARDING HEALTH OF BURGHS . . . 139

Section IX.

DISTRICT SANITARY INSPECTORS' REPORTS . . . 145

APPENDICES.

I. Summary of Proceedings of District Sanitary Inspectors under Public Health and other Acts.

II. Proceedings taken as regards Inspection, Improvement and Closure of Dwelling-houses.

Annual Report.

To the Scottish Board of Health and to the
Members of the Joint Committee for Public Health Services
of the County of Aberdeen.

Ladies and Gentlemen,

I have the honour to submit to you my first Annual Report, for the year ending 31st December, 1925, on the Health and Sanitary Condition of the County, and with it is incorporated a Report on the Medical Inspection and Treatment of School Children.

The Scheme for the Co-ordination of the Public Health Services came into operation on 1st April, 1925, and has as its main objects :—

1. To further the prevention of disease;
2. To co-ordinate and direct the various branches of the Public Health Services as a well-ordered whole;
3. To secure complete co-operation between the County Public Health staff and the general practitioners in all matters appertaining to the health of the community; and
4. To secure greater efficiency of the County Medical Services and to prevent overlapping.

A Joint Committee was set up consisting of representatives of the County Council, Education Authority, and the Town Councils of all the Burghs within the County. In the following Schemes, all the eight Districts of the County and the ten Burghs are embraced :—

1. The Tuberculosis Scheme.
2. The Scheme for the Medical Inspection and Treatment of School Children.
3. The Venereal Diseases Scheme.
4. The Bacteriological Scheme.

As regards General Public Health, the Joint Committee supervises the services in all the Districts and the Burghs, with the exception of Peterhead. The Maternity Service and Child Welfare Scheme includes all the Districts and Burghs with three exceptions, viz., Fraserburgh, Peterhead and Huntly.

The Co-ordinated Scheme has been in operation only for nine months, and this period is too short to allow of stocktaking, but, in the course of a year or two, one will be in a position to demonstrate whether the results are equal to anticipations and commensurate with the expenditure involved.

The fundamental idea of the scheme is to bring about a more effective Public Health Administration which will work along the lines of Preventive Medicine and will lead to a diminution of disease and suffering in the community and to a corresponding increase in wage-earning capacity.

In this Report I shall deal, in separate sections, with the various Schemes coming within the scope of the Central Administration, but I am not yet in a position to discuss effectively, from intimate experience, the intricate aspects of the Housing question. The general public health work of the Burghs is also dealt with separately.

There is no doubt that the Schemes for the Mother and Child Welfare and for the Medical Inspection and Treatment of School Children are all-important as they aim at prevention of disease, so far as prevention is possible, but, nevertheless, proper education as regards the simple laws of health, combined with adequate and sanitary housing, is equally important from the preventive point of view.

I should like to acknowledge with much pleasure the devotion to duty and the goodwill shown by the members of the staff. This internal harmony has done much to smooth over a stage of transition which might otherwise have been almost insurmountable.

I have the honour to be, Ladies and Gentlemen,

Your obedient Servant,

HARRY J. RAE, M.A., M.B., Ch.B., D.P.H.,
Chief Medical Officer.

16, Golden Square,
Aberdeen, 15*th June*, 1926.

SECTION I.

General Public Health.

GENERAL PUBLIC HEALTH.

1.—VITAL STATISTICS.

Population.

The population of the County, as estimated by the Registrar-General to the middle of 1925, was 109,538. The population as recorded at the 1921 Census was 113,567. This shows a decrease of 4,029 in four years.

The populations of the various Districts, as ascertained at the 1921 Census, and as estimated to the middle of 1925, are as follows :—

Table I.

District.	Population at 1921 Census.	Inter-censal Population (1925).	Decrease.
Deer	27,177	26,166	1,011
Ellon	13,311	12,839	472
Garioch	12.490	11,911	579
Deeside	12,037	11,751	286
Turriff	10,684	10,244	440
Aberdeen	22,777	22,330	447
Alford	8,668	8,194	474
Huntly	6,423	6,103	320
Total . . .	113,567	109,538	4,029

Marriages.

During the year, there were 467 marriages registered, equivalent to a rate of 4·2 per 1,000 of population as compared with 4·3 in 1924. The annual marriage-rate for Scotland was 6·6 per 1,000.

For the four Quarters of the year, the marriages registered were as follows :—

1st Quarter	81
2nd ,, ...	149
3rd ,, ...	107
4th ,, ...	130
Total . .	467

Births.

The number of births was 2,413, a decrease of 4 when compared with 1924; the proportion of males to females was 1,274 boys to every 1,139 girls.

The birth-rate was 22·02; in 1924, it was 22·3, and, in 1923, 24·5.

The Scottish birth-rate of the year was 21·3; this rate is lower than any previously recorded with the exception of the two War-time years, 1917 and

1918. Prior to 1914, the lowest Scottish birth-rate recorded was 25·5, but in 1917, it fell to 20·3.

The following Table gives the number of births, the sex, and a comparison between the legitimate and illegitimate births :—

Table II.

District.	Total Births.	Male.	Female.	Legitimate.	Illegitimate.
Deer . . .	579	306	273	503	76
Ellon . . .	320	171	149	270	50
Garioch . .	300	165	135	249	51
Deeside . .	208	90	118	174	34
Turriff . .	250	129	121	196	54
Aberdeen . .	412	219	193	357	55
Alford . .	184	104	80	160	24
Huntly . .	160	90	70	134	26
Total . .	2,413	1,274	1,139	2,043	370

As will be seen in the foregoing Table, the illegitimate births numbered 370 as compared with 381 in 1924, and 406 in 1923. The illegitimate birth-rate was 15·3 per 100 births.

Deaths and Death-rate.

The corrected number of deaths was 1,311; in 1924, it was 1,459, and in 1923, 1,381.

The death-rate was 11·9 per 1,000 estimated population. For the preceding five years, it was 13·7. The Scottish annual death-rate was 13·4 per 1,000.

The following line diagram shows, at a glance, the death-rates in the various Districts in the County and the dotted transverse line shows the rate for the County as a whole.

Causes of Death.

As already stated, the number of deaths in 1925 was 1,311, and the following were the chief causes of death :—

Diseases of the Circulatory System.—Two hundred and one deaths were due to diseases of the heart, whilst 143 were due to diseased blood vessels. Apoplexy, which comes under the latter category, accounted for 132 deaths.

Malignant Tumours.—In 1924, the deaths due to various forms of malignant disease (cancer) was 156. In 1925, the number due to this cause was 143 which represents a death-rate of 1·3. The ages at death were as follows :—

16-25 years	3 deaths.
26-35 ,, ...	1 death.
36-45 ,, ...	6 deaths.
46-55 ,, ...	20 ,,
56-65 ,, ...	36 ,,
Over 65 ,, ...	77 ,,
Total . .	143 ,,

CHART A.

Death-rate, all Causes, per 1000 of Population.

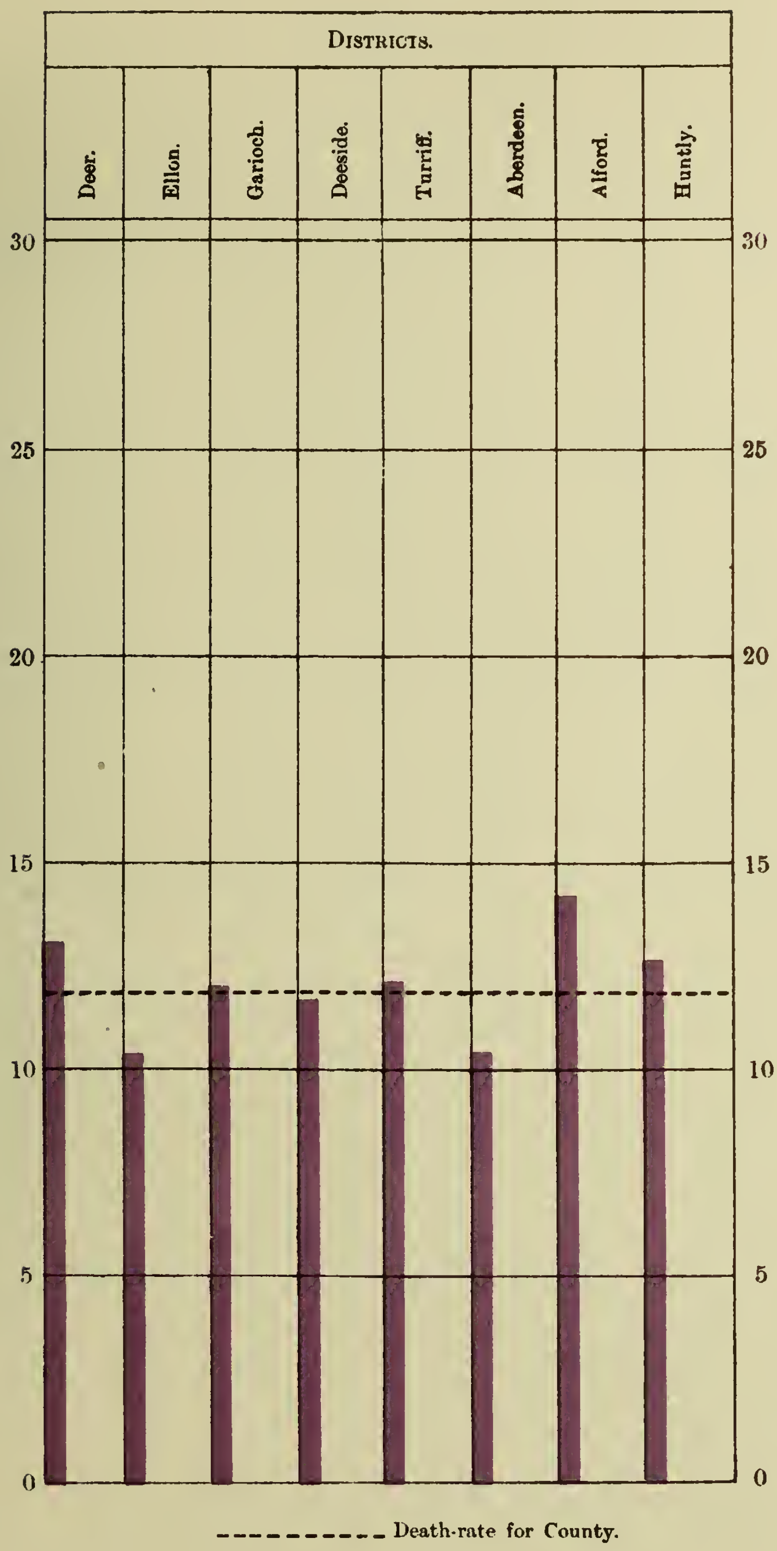
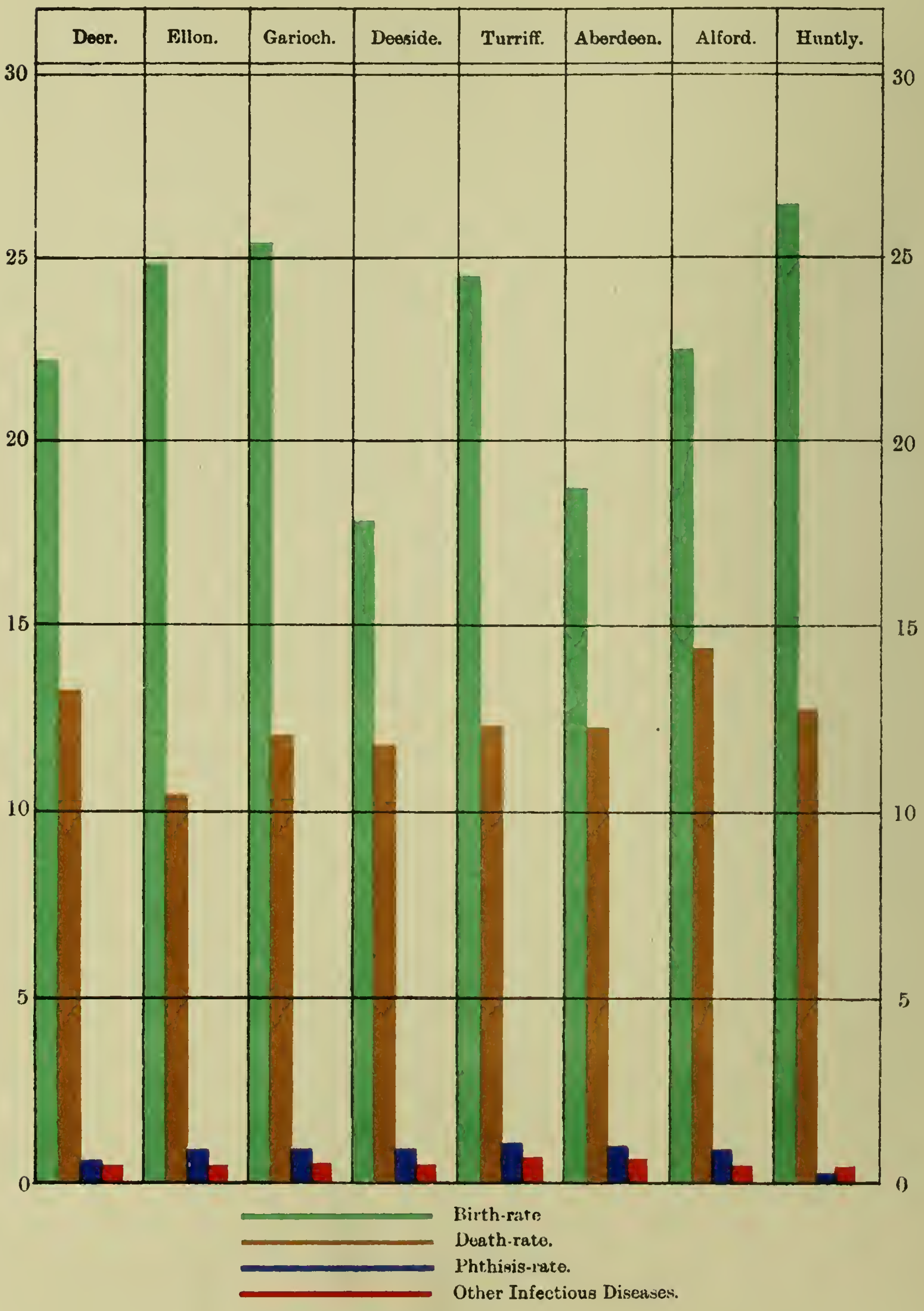


CHART B.

Diagram showing General Death-rates, Phthisis and other Infectious Diseases Death-rates, also Birth-rates in the various Districts in 1925.



Epidemic Diseases.—The principal epidemic diseases comprise Enteric Fever, Measles, Scarlet Fever, Whooping-Cough, Diphtheria, and Diarrhœa and Enteritis. The total deaths due to these diseases was 50, distributed as follows :—

Whooping-Cough	accounted for	12 deaths.
Diarrhœa and Enteritis	,,	13 ,,
Diphtheria	,,	9 ,,
Scarlet Fever	,,	7 ,,
Measles	,,	7 ,,
Enteric Fever	,,	2 ,,
	Total	50 ,,

Influenza.—Influenza caused 35 deaths. Other epidemic diseases accounted for 6 deaths.

Tuberculous Disease.—The number of deaths due to tuberculosis of the lungs was 78, and to other forms of tuberculosis, 26.

Diseases of the Respiratory System.—Excluding the deaths where influenza was a contributory cause, there were 150 deaths under this group. Pneumonia caused 63 deaths, bronchitis, 67, and other respiratory diseases, 20.

Diseases of the Digestive System.—These numbered 22—12 being due to appendicitis, and 10 to non-malignant disease of the liver.

Diseases of the Urinary System.—Under this group there occurred 43 deaths.

Deaths by Violence.—These numbered 52, of which 32 were males and 20 were females.

The accompanying diagram shows the general death-rates, the phthisis and other infectious diseases death-rates, and also the birth-rates in the several Districts.

2.—INFECTIOUS DISEASES.

The type of infectious diseases varies from time to time. Within the past few years there has been, generally speaking, a decreasing case mortality which is largely attributable to the decreasing severity of the type of infectious diseases. The causes in operation are several. One must consider (1) the variability of virulence of the invading micro-organism, (2) the resisting powers of the individuals attacked, with the amount of modification which may be due to acquired immunity, better housing and improved methods of living, and (3) the much discussed question of the effects of isolation hospitals for infectious diseases on the incidence and case mortality of these diseases.

The various Infectious Disease Hospitals in the County are given on p. 12, and, it would be well here, for the sake of completeness, to include the Burgh Hospitals, excepting that at Peterhead :—

Name of Hospital.	Area Served.	Number of Beds.
1. Strichen I.D. Hospital . .	Deer District . . .	40
2. Ellon " " . .	Ellon " . . .	18
3. Inverurie Joint I.D. Hospital	Garioch District and Inverurie Burgh	31
4. Aboyne I.D. Hospital . .	Deeside District . . .	16
5. Turriff " " . .	Turriff " and Burgh .	16
6. Summerfield I.D. Hospital .	Aberdeen " . . .	36
7. Alford I.D. Hospital . .	Alford " . . .	14
8. Jubilee Hospital, Huntly .	Huntly " and Burgh .	24
9. Braemar I.D. Hospital, Braemar	Braemar Area . . .	8
10. Ballater I.D. Hospital . .	Ballater Burgh . . .	6
11. Fraserburgh	Fraserburgh, ...	37

The Hospital at Braemar served no useful purpose as an Infectious Diseases Hospital, and in 1923 was closed according to an arrangement with the Braemar District Nursing Association. At present, it is occupied by the District Nurse. Were a case of zymotic disease to be admitted to this institution, a special staff of nurses would require to be engaged from Aberdeen. With present transport facilities, every case of infectious disease in the Deeside District, requiring special isolation and treatment, ought to be removed to Aboyne Infectious Diseases Hospital where adequate and up-to-date nursing services are obtainable.

Another Hospital which, in my opinion, might be dispensed with is Ballater Infectious Diseases Hospital. This is a small institution which might be put to a useful purpose if it were transformed into a Cottage Hospital, but, as an Infectious Diseases Hospital, it is not satisfactory. The patients admitted are few and far between, and the cost per case is correspondingly high. Ballater is, to a large extent, dependent on its summer visitors and if an outbreak of, say, Scarlet Fever or Diphtheria, were to occur during the "season," there is little doubt that endeavours would be made to have the patients sent to Aboyne Hospital. The question is, of course, controversial, but I think that the Ballater Town Council should seriously consider the present status of their hospital.

(a) Notifiable Infectious Disease.

SCARLET FEVER.

Table III. shows the number of cases notified during the past five years and the number of deaths registered in each year :—

Table III.

1921-1925.

Year.	Cases Notified.	Deaths Registered.	Deaths per 100 Cases.	Deaths per 1,000 Population.	Deaths per 10,000 Population.
1921	288	1	·34	·0088	·088
1922	276	1	·36	·0087	·087
1923	315	4	1·26	·011	·11
1924	244	6	2·45	·054	·54
1925	341	7	2·05	·064	·64

Compared with 1924, there was an increase of 97 cases with a reduction in the number of deaths per 100 cases of ·40 and an increase in the death-rate per 10,000 population of ·10.

In the Burghs, 57 cases were notified and one death was registered. The fatality rate was thus 1·72.

Age Incidence.—The age incidence of the cases are given in Table IV. From this it will be seen that the greatest number of cases occurred in the school age and the next greatest in the pre-school period. The percentage of cases occurring under 15 years of age was 73·9.

Table IV.

Age Incidence of Cases.

Districts.	Under 1 Year.	1–5.	5–15	15–25.	25–45.	45–65	Over 65	Total.
Deer	1	23	68	16	8	2	—	118
Ellon	—	1	9	5	2	1	—	18
Garioch	—	7	24	6	3	—	—	40
Deeside	—	5	12	4	1	—	1	23
Turriff	—	3	9	4	—	—	—	16
Aberdeen	—	11	29	13	3	1	—	57
Alford	—	10	27	11	—	—	—	48
Huntly	—	3	10	3	4	1	—	21
Totals	1	63	188	62	21	5	1	341
Percentage	·3	18·5	55·1	18·2	6·2	1·5	·3	100

Removals to Hospitals—The numbers admitted to Hospital and the duration of institutional treatment are shown in Table V.

TABLE V.

Districts.	Cases Notified.	Admissions to Hospital.	Period of Institutional Treatment in Days.	Number of Deaths.	Actual Death Rate.
Deer . . .	118	112	4,294	4	3·3
Ellon . .	18	17	782	1	5·5
Garioch . .	40	32	983	—	—
Deeside . .	23	18	785	1	4·3
Turriff . .	16	14	611	—	—
Aberdeen . .	57	55	1,828	—	—
Alford . .	48	45	1,663	—	—
Huntly . .	21	14	622	1	4·8
Totals . .	341	307	11,568	7	17·9

The number of patients admitted to Hospital was 307 or 90 per cent. of the notified cases. The average duration of treatment was 37·7 days.

Monthly Prevalence.—In the first half of the year, there were comparatively few cases, but in September there was a marked increase, with a fall in November and a maximum rise in December. The monthly incidence in the several Districts is shown below :—

TABLE VI.

MONTHLY INCIDENCE OF CASES.

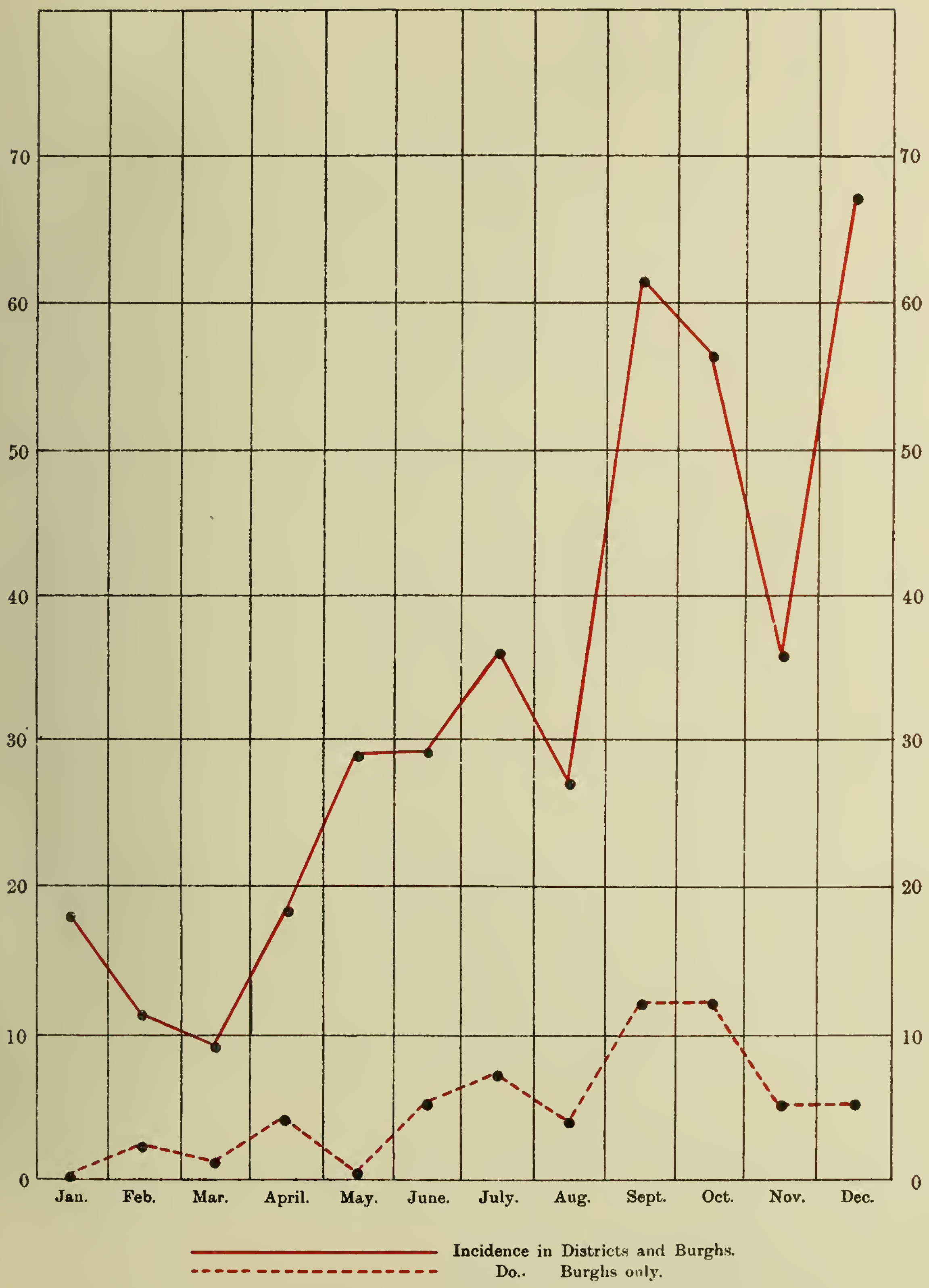
Districts.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Deer .	7	1	2	7	20	9	10	9	11	11	5	26	118
Ellon .	2	1	1	2	—	—	5	—	2	3	1	1	18
Garioch .	—	1	1	—	2	3	—	1	5	12	2	13	40
Deeside .	6	—	—	1	2	—	—	2	4	2	3	3	23
Turriff .	—	1	—	—	3	3	2	1	1	4	1	—	16
Aberdeen .	4	—	3	2	—	8	2	3	5	10	6	14	57
Alford .	—	5	1	1	2	—	3	6	11	2	13	4	48
Huntly .	—	—	—	1	—	1	7	1	10	—	—	1	21
Totals .	19	9	8	14	29	24	29	23	49	44	31	62	341

Chart C illustrates the monthly incidence in (1) the Districts and Burghs and (2) the Burghs alone.

Return Cases.—Three hundred and seven cases received institutional treatment during the year, and of these 14 or 4·5 per cent. were the origin of 15 return cases. Of the 14 infecting cases, it was ascertained that 5 developed nasal discharges and 3 ear discharges shortly after returning home, and, in the remaining 6 cases, no pathological link could be obtained. The intervals which elapsed between the return home of the infecting cases and the first symptoms of illness of the return cases were as under :—

CHART C.

SCARLET FEVER—Monthly Incidence.



1 week.	1-2 weeks.	2-3 weeks.	3-4 weeks.	Over 4 weeks.
3	3	3	1	5

In the lay mind, there is always a certain amount of blame attributed to the Hospital Authorities on the ground that the infecting cases have been discharged from Hospital before infective discharges have disappeared, but it may be stated quite definitely that every precaution is taken, both by the Medical Superintendents of the Hospitals and by the Matrons, to retain patients in Hospital so long as any nasal or ear discharge persists. In one case, the patient was discharged from Hospital with no discharges whatsoever, but a week after discharge she developed a "running" ear and infected her father.

Explanation of Increased Incidence.—The reason for the large number of cases of Scarlet Fever during 1925 has undoubtedly been that many cases were so mild, so avirulent in their manifestations, that the medical practitioners were never called in. This undoubtedly is one reason for the occurrence of sporadic cases, such as occurred in the Kemnay area. On more than one occasion, it has been necessary for the Medical Officers inspecting the school children to exclude children who were actually desquamating and who, previous to this process, had undoubtedly been potential sources of infection.

Curative Measures.—A recent method of treatment has been adopted in several areas, namely, the injection of Scarlatinal Anti-streptococcus Serum. It has been used with good results in the Aberdeen City Hospital. By means of this serum, it is stated that the period of institutional treatment is lessened, that the symptoms are less grave and that the likelihood of disturbing complications is diminished. This serum has not yet been used in the County Hospitals, but, when greater knowledge of its effects has been gained, it is hoped to be able to put supplies at the disposal of the Medical Superintendents of Infectious Diseases Hospitals for use in appropriate cases.

Preventive Measures.—By means of the Dick Test, it is possible to ascertain the susceptibility of the individual to Scarlet Fever. A toxin is obtained from the Streptococcus Scarlatinæ and this, when injected into an individual whose blood contains little or no antitoxin, produces a red blush varying in diameter from one quarter of an inch to an inch. A control, in the form of a heated diluted toxin, is also injected to obviate risk of fallacy arising from the individual being susceptible to the injection of protein. Individuals found to be susceptible may be actively immunised by three injections—at intervals of a week—consisting of 500 skin doses, 1,500 skin doses and 3,000 skin doses respectively. There is difficulty in the standardisation of the scarlatinal toxin and we are so far unaware how long this artificial immunity will persist, but it is hoped that it will continue until such time as natural immunity asserts itself, which it usually does as age advances.

In the end of 1925, a start was made in the Burgh of Fraserburgh, on these lines, amongst the school children. Facilities will later be given for the immunisation of children of pre-school age and for adults.

Schultz-Charlton Reaction.—This is a diagnostic test for Scarlet Fever. One c.c. of human serum from a convalescent scarlet fever patient is injected intradermally into an area where the rash is most intense and, if the case suffers from Scarlet Fever, an area of blanching varying in size from a five-shilling piece to the palm of the hand appears in the area of injection.

A newer method is to inject intradermally 0·2 c.c. of a 1 in 10 dilution of scarlatinal anti-streptococcus horse serum into an area where the rash is most intense, and, if the rash is scarlatinal in origin, an area of blanching, about one inch in diameter, will appear at the site of injection in from four to twenty-four hours.

Closure of Schools.—The two following schools were closed on the undernoted dates on account of outbreaks of Scarlet Fever :—

Logie-Coldstone Public School—29th January, 1925, to 13th February, 1925.

Glass Public School—27th July, 1925, to 31st July, 1925.

The value of school closure in respect of this and other zymotic diseases appears in another portion of this Report.

DIPHTHERIA.

The number of cases of Diphtheria notified during the year was 117 as compared with 86 in 1924 and 108 in 1923. In the following Table are given the number of cases in each district, the numbers admitted to Hospital, the number of deaths and the death-rates.

TABLE VII.

District.	Cases Notified.	Admissions to Hospital.	Duration of Treatment in Days.	Number of Deaths.	Case Mortality.
Deer . .	38	34	976	—	—
Ellon . .	5	4	60	—	—
Garioch . .	8	8	157	—	—
Deeside . .	8	5	138	2	25·0
Turriff . .	5	5	71	1	20
Aberdeen . .	38	24	916	4	10·5
Alford . .	10	9	159	2	20
Huntly . .	5	5	97	—	—
Total . .	117	94	2,574	9	7·7

The number of deaths was 9 and the case mortality 7·7 as compared with 2·3 in 1924, 3·7 in 1923 and 4·8 in 1922.

The average duration of institutional treatment was 22 days.

As will be seen in Chart D, the greatest numbers of cases were notified in the months of January, February, August and December.

During the year, in a few families, several members were affected. Three minor outbreaks could definitely be traced to "carriers." In one instance, a nurse working in an Infectious Diseases Hospital went home on holiday and infected two of her sisters and a brother. This nurse had suffered from Diphtheria two months prior to going home and was recorded as being non-infectious as two negative swabs had been obtained. This case goes to show the great difficulty which exists in dealing effectively with the carrier problem inasmuch as a carrier may act as a source of infection either continuously or more commonly intermittently.

CHART D.

DIPHTHERIA—Monthly Incidence of Cases—1925.

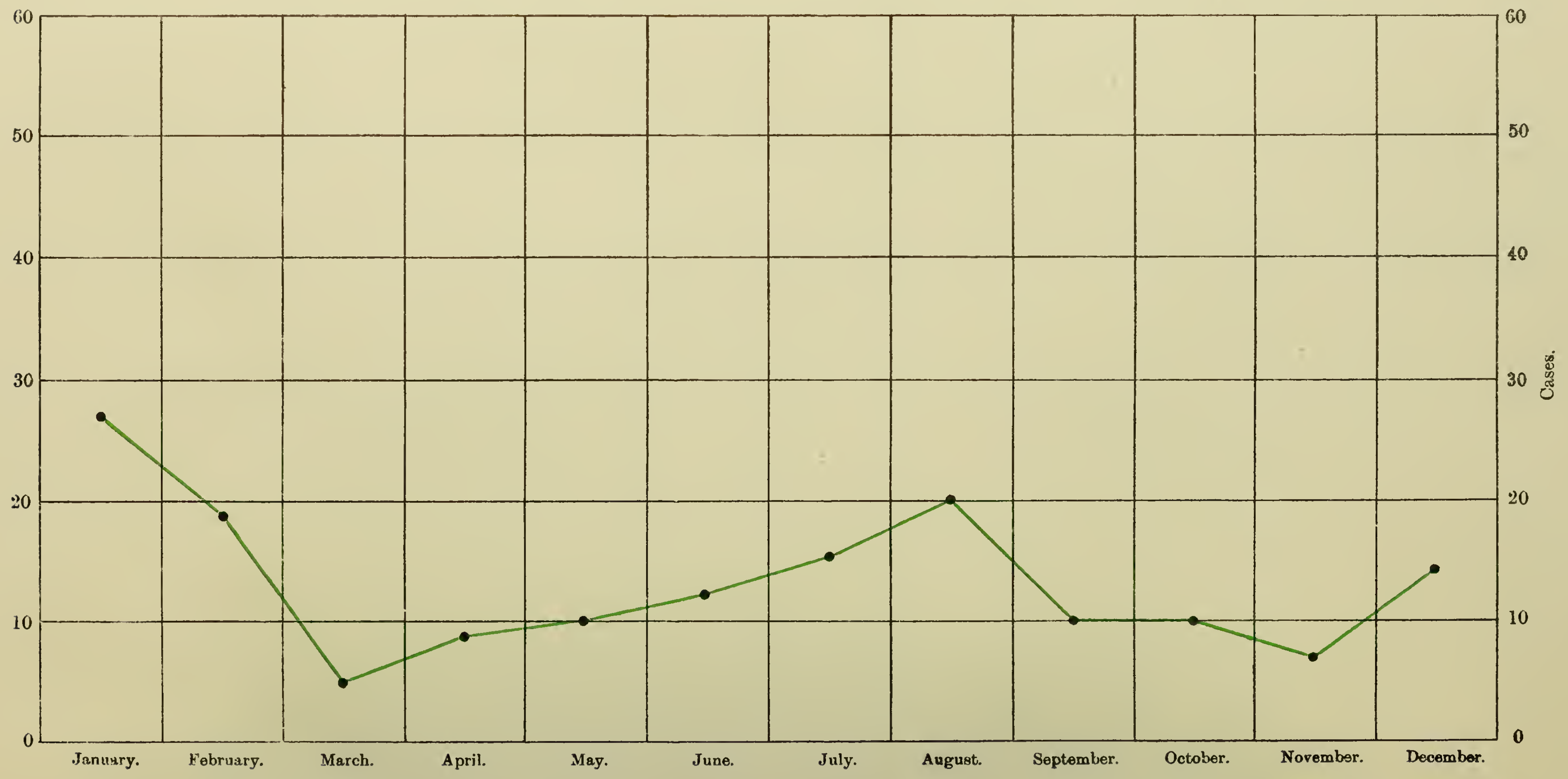


CHART E.

FRASERBURGH SCHOOLS.

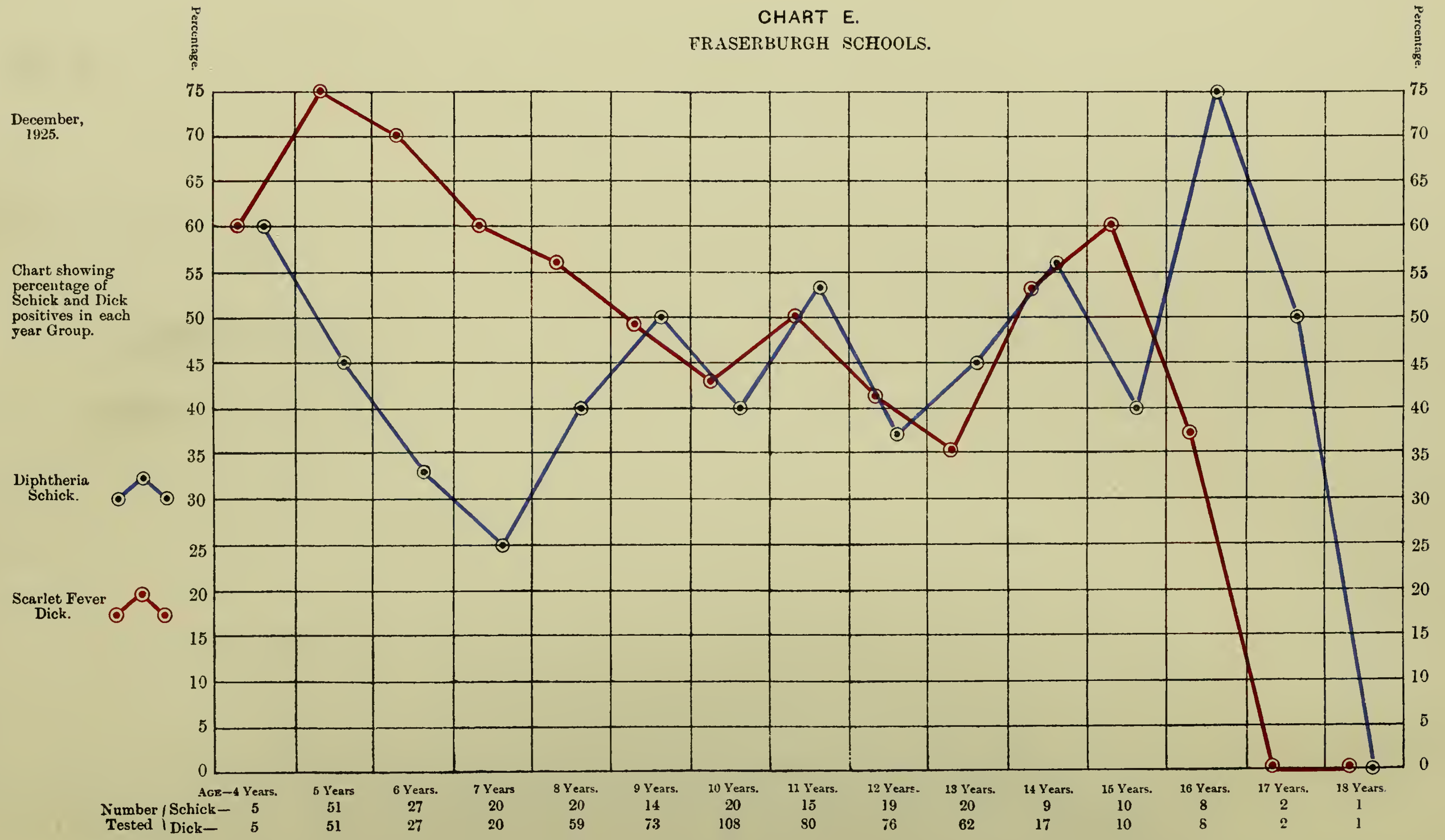

December,
1925.

Chart showing percentage of Schick and Dick positives in each year Group.

DIPHTHERIA AND SCARLET FEVER PREVENTION.

The prevention of Diphtheria and Scarlet Fever has, for some time, been receiving special attention by medical men, chiefly in America. These diseases are so prevalent and cause such disastrous effect on child life and young children that everything possible should be done to prevent or to mitigate the ravages of these diseases. The active immunisation against Diphtheria is carried out by three injections given in consecutive weeks of a mixture of Diphtheria Toxin and Antitoxin. Very little intensive work has been done in this direction in this country.

In 1924, my predecessor, Dr. J. P. Watt, commenced work on these lines in Fraserburgh, performing the Schick Test on 1,239 children, of whom, 783 were Schick-negative, that is, were not susceptible to Diphtheria, whilst 456 were Schick-positive, which indicates their susceptibility to that disease. Consent was also obtained of 324 children under seven years of age to whom the Schick Test was not applied.

Towards the end of the year under review, arrangements were made to continue Schick testing and immunisation against Diphtheria of children of school age in Fraserburgh, and further, to test and immunise these children against Scarlet Fever. Preliminary work was carried out in Huntly and District, Newmachar, and elsewhere, with a view to continuing there this newest method of prevention of disease. Statistics for the whole procedure in Fraserburgh follow :—

	Consents.	Refusals.
1. Academy	39	7
2. Central School	430	228
3. Episcopal ,,	15	15
4. Infant ,,	97	107
5. North ,,	42	107
	623	464

Percentage of Consents . . 57

The Schick and Dick Tests were performed on 26th November, 1925. The Dick Tests were interpreted on 27th November and the Schick Tests on 30th November. The numbers tested at the several Schools were as follows :—

Academy	37
Central	407
Episcopal	15
Infant	97
North	42
Total	598

The results of the Tests, in age groups, are given in an accompanying Chart.

The percentage found to be susceptible to Diphtheria was 50 and to Scarlet Fever 43.

Three immunising injections were given on 3rd, 10th and 17th December last, and several absentees received their third inoculations on 24th December. The numbers immunised are shown in Table VIII.

Table VIII.

Schools.	Diphtheria.	Scarlet Fever.	Both Diphtheria and Scarlet Fever.	Total.
1. Academy . .	10	5	10	25
2. Central . .	4	168	12	184
3. Episcopal . .	4	3	1	8
4. Infant . .	9	31	24	64
5. North . .	8	9	15	32
Totals . .	35	216	62	313

The material for Dick testing and subsequent immunising was prepared at the City Hospital Laboratory, Aberdeen. The results obtained were uniform and this indicated that a reliable material was used.

Following on the completion of the testing and immunising of children attending the Fraserburgh Schools, there was prepared the following Memorandum on "*Modern Methods of Prevention of Scarlet Fever and Diphtheria*" :—

I.—Prevalence and Mortality.

For the quinquennial period, 1920-1924, the number of cases of scarlet fever notified in the County of Aberdeen was 1,408, and of diphtheria 1,014, giving an annual average incidence of 281·6 and 202·8 respectively. The number of deaths during this period showed a case mortality of 1·5 per cent. in the case of scarlet fever and 4 per cent. in diphtheria. Any administrative measure, therefore, that shows a reasonable prospect of reducing the incidence of those two prevalent diseases must receive the careful consideration of those responsible for the Public Health services of the County.

Apart from the benefit to the general health of the community that would result from the carrying out of any such measures, it must be remembered that about 90 per cent. of cases of scarlet fever and diphtheria are treated in hospital, and this necessarily means a comparatively heavy expenditure. The adoption of those measures would, therefore, mean a considerable reduction in the expense of administration and treatment in hospital.

II.—Curative versus Preventive Measures.

One does not require to labour the point that preventive measures are always so much more desirable, where they are possible, than merely curative measures.

Curative sera are available for the treatment of cases suffering from diphtheria and scarlet fever and for producing a passive immunity in contacts. In diphtheria, passive immunity is induced in contacts in twenty-four hours by injecting 1,000 units of diphtheria antitoxin subcutaneously or intramuscularly, and this immunity persists for about three weeks; for the treatment of actual cases of diphtheria, 4,000 to 18,000 units or more of antitoxin—according to the gravity of the illness—are injected subcutaneously, intramuscularly, or, if the case is gravely ill, intravenously. As regards scarlet fever, scarlatinal antistreptococcus serum has been produced for immunising contacts and for treatment purposes; passive immunity in contacts is produced in twenty-four hours by injecting 25 c.cs. of this serum intramuscularly; for purposes of treatment, 40 to 100 c.cs., according to the gravity of the symptoms, are administered subcutaneously, intramuscularly, or intravenously, and the last-mentioned method is adopted when the case is serious; experience has shown that this antitoxin has little curative effect when the rash has disappeared or when septic complications have supervened.

It is becoming widely recognised that, in addition to the usual methods employed for the prevention of infectious disease, we have in the new diphtheria toxoid-antitoxin mixtures and scarlatinal streptococcus toxin efficient weapons by the use of which the incidence of those diseases may be greatly lessened, with a resulting increase in the number of cases prevented and a consequent lessening in the number of cases requiring to be cured. Research work carried out at the Aberdeen City Hospital has proved that toxoid-antitoxin used for protection against diphtheria can be mixed with the scarlatinal streptococcus toxin used for protection against scarlet fever, and it is now, therefore, possible to obtain active protection against both these diseases by a single series of subcutaneous injections.

III.—IMMUNITY.

During the first six months of life, nearly all children appear to have a natural immunity from diphtheria and scarlet fever. This immunity rapidly disappears, and from six months onwards most children are highly susceptible to those diseases until, as they grow older, the immunity again reasserts itself. As everyone knows, cases of scarlet fever and diphtheria are, comparatively speaking, rare amongst adults. The idea of the use of the above-mentioned prophylactics is to tide over the period of high susceptibility by making the child immune until, as it grows older, its own natural immunity reappears.

It should be noted, however, that in some children the natural immunity of early infancy does persist into adult life, and that children who have had attacks of diphtheria and scarlet fever usually remain immune thereafter, and it is not necessary in such cases to give prophylactic injections.

Active immunity, brought about by these injections, develops in from one to six months in the case of diphtheria and in two weeks in the case of scarlet fever. The immunising injections for scarlet fever are, on account of the rapid development of active immunity, useful in checking outbreaks of that disease. The active immunity produced in the case of scarlet fever appears to last for two years or more, and it is hoped that this active immunity will persist until a natural immunity asserts itself as age increases.

It has been found that about 85 per cent. of individuals who are susceptible to diphtheria are rendered immune by a series of toxoid-antitoxin injections, and, of people susceptible to scarlet fever, 85 per cent. also are rendered immune by a series of injections of scarlatinal streptococcus toxin.

IV.—TECHNIQUE.

By means of the Schick Test for diphtheria and the Dick Test for scarlet fever, we have a means of finding out individuals who have this immunity and those who are not immune; only those who are not immune are, therefore, inoculated against those fevers. A small quantity (·2 c.c.) of the diluted toxin is injected into, not under, the skin of the forearms—different arms being used for the different toxins—and a "control" test is made by injecting below the site of the first injection the same toxin rendered inactive by being previously heated. The arms are subsequently examined; in the case of the Schick Test, three days after the injections, and in the case of the Dick Test, twenty-four hours after the injections. If the child is susceptible to the disease, there is an area of well-marked redness of the skin at the site of the first injection; if the child is not susceptible, there is no such redness, or at least it is very much less in amount. The susceptible children are then rendered immune by injecting the protecting toxin under, not into, the skin. In the case of diphtheria, three doses of 1 c.c. each of the toxoid-antitoxin mixture are injected at weekly intervals. In the case of scarlet fever, three injections are also necessary and the amount of toxin at each injection remains 1 c.c., but the toxin is increased in strength at each injection, for example, 500 skin doses are given at the first injection, 1,500 at the second, and 3,000 at the third.

These reaction tests are not essential in the case of children under six years of age; these may be actively immunised straight away without preliminary tests.

It should here be noted that as the immunising of the child against scarlet fever is a comparatively new method, the length of time that the immunisation lasts is still a little doubtful, but in any case it is of sufficiently long duration to make this method of immunisation worth while doing.

A certain amount of technical skill is required in making the Schick and Dick Skin Tests, and more especially in reading the results. Not every case shows a definite reaction that can be easily read. In many cases, the reaction is apparently doubtful, and it is only after some experience that one can make the correct reading of those doubtful results. It is, therefore, on that account advisable that the testing at least should be undertaken, where possible, by Public Health officials who have had special instruction and practice in those methods.

A start with these methods of prevention has been made at Fraserburgh. The school children were given pamphlets to take home to their parents, explaining the process in simple language and urging the parents to have their children so treated. A card was also given for the parents with a request to signify whether or not they consented to their children being tested, and, if necessary, immunised. The response was highly satisfactory.

Eight hundred and thirty-eight children were first tested on 26th November, 1925—240 for diphtheria and 598 for scarlet fever. The subjoined table shows that 42·9 per cent. were found to be susceptible to diphtheria and 49·5 per cent. to scarlet fever. A beginning of the immunising of those who were susceptible was made on 3rd December, and it is hoped to have these completed by 17th December. The whole of the work is being undertaken by the Medical Officer and members of his staff.

Burgh of Fraserburgh.

School.	Schick Test		Dick Test.	
	No. Tested.	No. Positive.	No. Tested.	No. Positive.
Central	50	16	407	186
Infant	97	38	97	62
North	42	24	42	27
Episcopal	15	5	15	4
Academy	36	20	37	17
Total	240	103	598	296
Percentage	—	42·9	—	49·5

V.—ADMINISTRATIVE MEASURES.

The cost of this testing and immunising of the school children in Fraserburgh is being borne by the Burgh of Fraserburgh. The response of the parents of the children to have this done has been so great that it is proposed to carry out similar measures in the other more populous centres in the County, for example, Turriff, Huntly, Inverurie, &c. This method of immunising the children becomes a purely community matter, and I should, on this point, like to submit for the consideration of the Committee that the expense in future incurred in burghs should be levied over the County as a whole. I should also like to point out that a certain percentage of the children immunised in the burgh schools live in areas outwith the burghs.

I feel that at present those preventive measures can only be undertaken in the burghs; to practice these immunising methods throughout the rural areas of Aberdeenshire would necessitate the employment of additional medical staff.

(Signed) HARRY J. RAE,
Chief Medical Officer.

16, Golden Square,
Aberdeen, 12th December, 1925.

TYPHOID FEVER.

Typhoid Fever is one of the infectious diseases the prevalence of which has steadily decreased during the past 25 years. In that period, the death-rate has fallen from 40 to 1.1 per 100,000.

In the eight Districts of the County, 22 cases were notified, and of these, 16 were proved by bacteriological examination of blood, stools, or urine, to be suffering from typhoid or para-typhoid infections, whilst 6 were found, on repeated examinations, to give negative results.

The results of the bacteriological investigations were as follows :—

Typhoid Bacilli	found to be present	in 8	cases.
Para-Typhoid B.	,,	,, 7	,,
Para-Typhoid C.	,,	,, 1	case (probably).
		16	

The ages of these cases were as under :—

Typhoid Fever .	8; 14; 16; 21; 23; 24; 27; 33.
Para-Typhoid B. .	16; 17; 18; 21; 23; 24; 35.
Para-Typhoid C. .	33 years.

Of the 16 positive cases, 14 were treated in Infectious Diseases Hospitals. Of the 22 cases notified, 19 had hospital treatment. It should here be stated that one of the chief functions of Infectious Diseases Hospitals is the reception of doubtful cases, where diagnosis may be verified or otherwise by continued observation—under favourable circumstances—of physical signs, pulse, temperature, &c. In every Infectious Diseases Hospital, there ought to be an Observation Ward to which practitioners should be encouraged to send patients suffering from infectious diseases with doubtful diagnosis. In the new Infectious Pavilions which are to be built at Aboyne and Huntly, adequate provision will be made for the observation of doubtful cases.

Two cases were reported to have died of Typhoid Fever at the age of 33 and 56 years, but in these, no bacteriological investigations were made.

The annual average number of cases reported during the preceding decennium was 19.

Typhoid Fever has been proved to be a food-borne disease, the chief medium being milk, and the food is infected either by sufferers from the disease or by "carriers" who, as a rule, excrete the infective organisms in the stools or urine intermittently. In each of two families, two cases occurred. Two positive cases were traced to a "carrier." All the other positive cases occurring in 1925 were isolated and sporadic in nature, and no source of infection was discoverable.

SMALL-POX.

During the year, no case either of Small-pox or of suspected Small-pox was brought to my notice.

In 1920, arrangements were made whereby Summerfield Hospital was set aside for the treatment of any case of Small-pox occurring in any districts or burghs within the County. The Aberdeen City was then included in the arrangement.

It must, however, be conceded that in the case of Small-pox it is undesirable to stereotype in any way hospital provision, just as it is undesirable to stereotype hospital provision for the common zymotic diseases. The most efficient results are obtained by general fluidity of accommodation and of services.

The following suggestions with regard to the treatment of cases of Small-pox are worthy of consideration, but, in any scheme dealing with this disease, the City and the County must be in complete co-operation.

If the first case or cases of Small-pox occurred in the County, in an area remote from other dwellings, these should be :—

1. (*a*) Removed to the Aberdeen City Hospital, for teaching purposes, with the approval of the Medical Officer of Health for the City, or
   (*b*) Removed to the Infectious Diseases Hospital of the District or Burgh in which the first case or cases occurred; the patients in this Hospital, suffering from ordinary zymotic diseases, would be distributed amongst the other County Infectious Diseases Hospitals, or, if there was no accommodation in these, the patients would be admitted to the Aberdeen City Hospital, or
   (*c*) Isolated and nursed at home and contacts removed and vaccinated.
2. If the first case occurred in the City of Aberdeen, any subsequent cases occurring in the County would be removed to the City Hospital.
3. In the event of any outbreak occurring simultaneously in the City and County, as many cases as possible would be removed to the City Hospital and "overflow" cases would be sent to one of the County Infectious Hospitals.
4. In the event of a severe outbreak confined to the City, as many cases as possible would be admitted to the City Hospital, and, by arrangement with the County Council, one of the Infectious Diseases Hospitals would be set aside for the isolation of "overflow" cases, if it were deemed inadvisable to erect emergency buildings.

If these suggestions were adopted, it would not be necessary to have wards reserved for cases of Small-pox at Summerfield Hospital as is at present the case.

If a scheme on the above lines were approved, the following financial arrangements which are very similar to those adopted in 1920 in connection with the Small-pox wards in Summerfield Hospital would prove satisfactory, namely :—

1. That the Hospital into which the case or cases of Small-pox are received should keep separate accounts of its outlays exclusively incurred in connection with the treatment of Small-pox, the accounts to include :—

   (*a*) All additional nursing or other expenses which may be necessarily incurred, and (*b*) All expenses incurred in structural alterations (if any), and the provision of additional furnishings. It would be very unlikely that any structural alterations or extensions would be necessary unless the outbreak of Small-pox were severe.

2. That the other Contracting Authorities who may, as part of the Scheme, be called upon to receive patients suffering from infectious diseases (other than Small-pox) from any District or Burgh in the County should in like manner keep a separate account of any additional expenditure for nursing or otherwise incurred by them in consequence of their reception and treatment of such patients.

3. That as regards the foregoing expenses (a) if cases are confined to the City or County, then the expenditure should be met wholly by the Town Council or by the County Council, as the case may be, but (b) if the Town Council and the County Council are co-operating for the treatment of Small-pox cases the expenditure should be pooled and allocated according to the incidence of cases in City or County.

4. That separate accounts should be kept of the actual cost of food and medicine supplied (1) by the Infectious Diseases Hospital in which the case or cases of Small-pox are being treated, and (2) by the other Authorities in respect of the treatment of ordinary infectious cases from the area in which the Small-pox cases are being treated and the respective amounts thereof should be paid to the Authority providing such treatment by the Authority from whose district the patients are removed.

5. That the Authority from whose District a patient or patients are removed should bear the cost of such removal, and

6. That any questions arising should, failing agreement, be referred to the Scottish Board of Health, by whose decision the parties will be bound.

ACUTE INFECTIVE JAUNDICE.

Under the Public Health (Infective Jaundice) Regulations (Scotland), 1924, three cases of Acute Infective Jaundice (spirochætosis ictero-hæmorrhagica) were notified, all from the Deer District, but no bacteriological confirmation was obtained in any of the cases. There were no deaths from this disease.

PNEUMONIA.

Under the Public Health (Pneumonia, Malaria, Dysentery, &c.) Regulations (Scotland), 1919, Acute Primary and Acute Influenzal Pneumonia, Malaria, Dysentery and Trench Fever were made notifiable diseases.

In 1925, the total number of cases of Pneumonia notified was 154, as compared with 158 in 1924. Of the 154 cases, 136 suffered from the acute primary form of the disease and 18 from the influenzal type.

Of these cases, 63 died, giving the high case mortality of 40·9. Ten cases were treated institutionally.

An outline of the Pneumonia Scheme is contained in the section of this Report dealing with Maternity and Child Welfare Services.

MALARIA.

In 1925, only one case of Malaria was notified, but on investigation, it was ascertained that the disease originated abroad.

DYSENTERY.

Two cases of Dysentery were notified. Both occurred in the Deer District.

ENCEPHALITIS LETHARGICA.

Two cases of Encephalitis Lethargica (Sleepy Sickness) were notified. Both cases died.

ACUTE ANTERIOR POLIO-MYELITIS.

Two cases were notified, one a child of four years in the Deer District, and a male of 42 years. No deaths were recorded.

CEREBRO-SPINAL FEVER.

No cases of Cerebro-spinal Fever, commonly known as Spotted Fever, were notified.

ERYSIPELAS.

Fifty-one cases were notified as compared with 55 in 1924. There were 4 deaths from this disease. The ages of those who died were 2 weeks, 28 years, 55 years and 77 years.

TABLE IX.

COMPARATIVE INCIDENCE RATE OF NOTIFIABLE INFECTIOUS DISEASES PER 10,000.

District.	Estimated Population. (Middle of 1925).	Small-pox.		Scarlet Fever.		Diphtheria.		Typhoid Fever.		Erysipelas.	
		Cases.	Rate.	Cases.	Rate.	Cases.	Rate.	Cases.	Rate.	Cases.	Rate.
Deer .	27,177	—	—	118	43·4	38	13·98	5	1·83	14	5·1
Ellon .	13,311	—	—	18	13·52	5	3·75	8	6·01	2	1·5
Garioch .	12,490	—	—	40	32·0	8	6·4	4	3·2	3	2·4
Deeside .	12,037	—	—	23	19·1	8	6·64	1	·83	8	6·64
Turriff .	10,684	—	—	16	14·97	5	4·67	—	—	7	6·55
Aberdeen	22,777	—	—	57	25·02	38	16·6	3	1·31	12	5·26
Alford .	8,668	—	—	48	55·3	10	11·53	1	1·15	5	5·76
Huntly .	6,423	—	—	21	32·69	5	7·78	—	—	—	—

(b) Non-notifiable Infectious Diseases.

Included under this heading are the three infectious diseases, measles, whooping cough and chicken-pox. During 1925, 288 cases suffering from these diseases were reported from the schools in the County. Disinfection of the houses is carried out by the Local Authority on application by the medical man or householder.

MEASLES.

Two hundred and forty cases of measles were reported. The months of greatest prevalence were May, September, November and December.

Seven deaths were registered to be due to this disease, giving a death-rate of ·06 per 1,000 of the estimated population.

The question of the notification of measles has been frequently under discussion, but, as the cost of this would be heavy in notification fees, owing to the widespread nature of the disease, notification of the first case only in a household is justifiable. It must also be remembered that there is a long period of infectivity before it is possible to make a definite diagnosis.

In this disease the serious complication is Pneumonia, usually of the bronchopneumonic type. Arrangements will be made at the request of the medical practitioners for the admission of cases of measles so complicated to the Aberdeen City Hospital, under the Pneumonia Scheme. It may here be pointed out that the Infectious Diseases Hospitals of the County should be, and usually are, ready to admit such cases to the extent of their available accommodation.

Whooping Cough.

Whooping Cough was most prevalent during October, November and December. Thirty-seven cases were reported from the schools. Twelve deaths were registered, giving a death-rate of ·11 per 1,000 of the estimated population.

Chicken-Pox.

There were only 11 cases of Chicken-pox reported from the schools in 1925 and there were no deaths from this disease.

3.—HOUSING CONDITIONS AND SANITATION.

The chief defects noted in connection with houses were damp walls and floors, leaky roofs, insufficient light and ventilation. All those houses that were considered to be unfit for human habitation were reconstructed or closed, with the exception of one occupied by an old man who wished to spend the remainder of his span of life in it. Many houses were repaired or improved where the defects were not such as to render the houses unfit for human habitation.

The substitution of water closets for privies goes steadily on in all Districts. In Waterton Village, in the Parish of Echt, 18 houses to the west of the Lyne of Skene Road had water closets introduced in place of privies. The sewage is led to a septic tank and thence to double filters before entering the stream at back of village. A new sewer and an extension to the water main were made in this District.

A public sanitary convenience for Bucksburn was sanctioned and will be erected in Auchmill Road. Similar accommodation is required in Culter Special District.

Newmachar Village was formed into a Special Water and Drainage District.

In Dyce Special District a new 8-inch drain pipe and septic tank have been installed.

An irrigation farm was laid out at Dinnet by Aberdeen Town Council for disposal of sewage from Dinnet Special District. This should prevent pollution from this area of the Dee whence the Aberdeen water supply is drawn.

The year was a very dry one and many water supplies had in consequence to be carefully husbanded. Increased supply of water for Collieston was secured by installing a new pumping set.

The Newburgh water supply gave cause for anxiety but the discovery and repair of two leaks improved the supply.

At Lumphanan the water supply was greatly improved by repair of several very bad leaks in pipes and the putting in of air valves in the higher points of the system.

At Mains of Granhome, a new dairy byre and milk store on Denmark principle were erected. Cleanliness can be maintained with a minimum of labour.

An application to sell Grade A (Tuberculin Tested) Milk was granted to the Rowett Research Institute. Two licences to sell Certified Milk were granted to Mr. J. Keith for dairies at Cairnbrogie and Bonnyton. The highest standard of cleanliness has always been observed at these dairies by inspecting officials.

The Aberdeenshire Bacon Curing Company were granted a licence for slaughter of pigs at the factory at Dyce. Premises at Persley were reconditioned and converted into a tallow melting factory.

The importance of the human factor in the attainment of health is emphasised in one report. The Ellon District Sanitary Inspector relates—"In one of these houses that I visited I found a family consisting of two adults and four children all occupying the kitchen, the remaining two rooms of the house being left empty. In the polluted atmosphere of the kitchen a baby was lying in a perambulator. Its appearance could only be depicted by such pictures as represent famine. Yet, in asking the mother what was wrong, I was assured the child was quite healthy. The baby weighed ten pounds when fully six months old. The most distressing feature was that the enormous benefit of fresh air and sunlight was being denied this little mite."

4.—FACTORY AND WORKSHOPS ACT, 1901.

There are 950 factories and workshops on the Register. The numbers in each District, with the visits paid by the Sanitary Inspectors, the defects found and remedied, are given in the following Table :—

Table X.

	Deer.	Ellon.	Garioch.	Deeside.	Turriff.	Aberdeen.	Alford.	Huntly.	Total.
Number on Register . . .	260	87	103	141	86	127	83	63	950
,, of Inspections . .	63	87	81	103	134	72	98	31	669
Notices served under Section 2 (3), &c.	—	—	—	—	—	3	—	—	3
Defects found	—	14	16	—	—	3	2	1	36
,, remedied . . .	—	14	16	—	—	3	2	1	36

SECTION II.

Tuberculosis Services.

TUBERCULOSIS SERVICES.

SURVEY OF THE COUNTY TUBERCULOSIS SCHEME.

Before the passing of the Insurance Acts, there was practically no organised provision for the treatment of patients suffering from tuberculosis. Originating from these Acts came the County Tuberculosis Scheme which has now been in operation for almost thirteen years. From the commencement of the Scheme until 15th May, 1925, a sum of £115,680 had been expended on the treatment of tuberculosis in this County. It may be added that one-half of the approved expenditure has been refunded by the Scottish Board of Health, the functions of which, prior to 1919, were performed by the Local Government Board.

The Scheme started in quite a small way, but has gradually grown. Although, in its essential details, there has not been much in the way of change, yet improvements have been made all along the line, such as the provision of institutional treatment for pre-tuberculous children, the provision of remedial exercises and massage for selected cases and treatment by heliotherapy and by Artificial Light.

The coming into force of the Milk and Dairies (Scotland) Act, 1914, as amended by the Milk and Dairies (Amendment) Act, 1922, and the Tuberculosis Order will secure definite improvement in the prevention of tuberculosis as many cases of "surgical" or non-pulmonary tuberculosis are undoubtedly caused by the bovine type of the tubercle bacillus.

It would be well to review rapidly the gradual development which has taken place in the scheme since its inauguration.

Sanatorium and Hospital Provision.

Prior to 1913, a few tuberculous patients from the County received treatment in Newhills Sanatorium. The Managers of the Thomas Walker Hospital, Fraserburgh, also set aside a few beds in that Hospital for the use of consumptive patients belonging to the Burgh of Fraserburgh. No payment was made to these institutions by the Local Authority for the maintenance and treatment of the patients.

Originally provision was made, under the National Insurance Act, for the treatment of tuberculous insured persons and the tuberculous dependents of insured persons *only*, but most Local Authorities recognised that any scheme which would effectively grapple with the problem would also have to include persons who were neither insured nor the dependents of insured persons. Representations on these lines having been made to the Chancellor of the Exchequer and to the President of the Local Government Board, the Treasury intimated that a scheme for the inclusion of uninsured persons would meet with their approval and that the grant payable by the Treasury would be one-half of the nett cost of the scheme as a whole, after deducting the receipts from Insurance Committees in respect of the treatment of insured persons and their dependents and from other paying patients. It was therefore decided that, in the County of Aberdeen, tuberculous persons of all classes would be eligible for appropriate institutional treatment at the hands of the Local Authority.

As early as 1912, an effort was made to provide a Joint Sanatorium to meet the needs of the Counties of Aberdeen and Kincardine and of the City of Aberdeen, but no agreement was arrived at, chiefly on account of differences of opinion on matters of administration. Later there was suggested a combination of the Counties of Aberdeen, Kincardine, Banff, Moray, Nairn, Caithness, Sutherland, Orkney and Shetland, but, early in 1915, the Local Government Board issued instructions that no new buildings should be proceeded with during the War, and, consequently this scheme was abandoned. On the termination of hostilities, the newly constituted Scottish Board of Health advised Local Authorities to proceed with the erection of contemplated sanatoria, as they were then of opinion that much more accommodation would be required in view of the large number of discharged and demobilised soldiers and sailors who were suffering from tuberculosis and who would require institutional treatment. This recommendation was fully considered by the County Council in consultation with one of the medical representatives of the Board, but the Council, very wisely, I think, decided not to erect a sanatorium, their chief reason being that the cost per bed would probably reach the exorbitant figure of £480, as opposed to the pre-war estimated cost of £150. Apart from the cost, the chief objection to the erection of a County Sanatorium was that it was difficult to see how greater efficiency could thereby be gained, as patients had received treatment by approved methods in the sanatoria to which the County Council was in the way of sending patients. No doubt there are meantime considerable difficulties in administration in that the Joint Committee has to send patients to institutions outwith its area, and has practically no direct control over these institutions; consequently, it is not always easy for the Medical Officer of Health to keep so closely in touch with the patients as to enable him to arrange to his satisfaction for their immediate medical and nursing care on discharge.

In the early years of the scheme, patients were sent to Newhills Sanatorium, Bucksburn; Bridge of Weir Sanatorium, Renfrewshire; Woodburn Sanatorium, Edinburgh; and Seaforth Sanatorium, Ross-shire. In 1920, an arrangement was made with the Forfar County Council whereby 25 beds were allocated in Noranside Sanatorium for the accommodation of patients from this County, the payment to be made in respect thereof to be at the rate of 45s. per week per patient. It was also resolved that the agreement should subsist for a period of seven years, on the understanding that the rate of board would be fixed annually, in view of the probable fluctuations in the prices of commodities. The Scottish Board of Health at first withheld but ultimately gave their approval to this proposal, and accordingly the beds were reserved for patients from this County, as from 15th September, 1921. Under this arrangement it has been possible to "concentrate" the sanatorium cases in Noranside, Newhills, and Bridge of Weir Sanatoria, in which institutions the average weekly number of patients in 1925 was approximately 35, 33 and 5 respectively.

As regards hospital treatment, provision was made in 1913 for the reception of County cases in the Thomas Walker Hospital, Fraserburgh. The average weekly number of patients in this hospital is 27. The amenities of the hospital would be greatly improved were there a larger ground area around it, and its utility would be enhanced if a dining and recreation room were attached to the present building. At Peterhead, four beds were, in 1915, set aside in the Burgh Infectious Diseases Hospital for the treatment of tuberculous persons; in 1920, a Tuberculosis Annexe was erected in the Hospital grounds, and this increased the accomodation considerably; and in 1922, the Peterhead Town Council erected a second Annexe. It has been our practice to send children chiefly to this institution, for here they seem to make remarkably good progress. The remaining hospital to which tuberculous patients are sent is Forgue Cottage Hospital, where the Committee has a weekly average of eight tuberculous patients. This hospital is of the nature of a Convalescent Home; the surroundings are pleasant and the hospital grounds are ample.

Under the scheme as it stands there is seldom any considerable waiting list of early pulmonary cases for admission to sanatoria, while there has been little or no difficulty in obtaining the immediate admission of more advanced pulmonary cases to the tuberculosis hospitals. In most counties and burghs in Scotland no definite provision is made for the treatment of cases suffering from non-pulmonary or "surgical" tuberculosis, but during the past few years we have been able to treat by operation a large number of these cases at the Thomas Walker Hospital, thus relieving the congestion in the Aberdeen Royal Infirmary and the Aberdeen Sick Children's Hospital, and preventing prolonged delay in having such cases attended to. Towards the end of 1922, two beds were set aside in the Insch and District War Memorial Hospital for cases of "surgical" tuberculosis, and during the past three years 63 cases have been treated therein.

Since the inauguration of the County Tuberculosis Scheme, no consumptive patient requiring institutional treatment has been denied this form of treatment, and this is a record which few districts in the country can equal.

As already stated, the Scottish Board of Health, on the conclusion of the War, urged Local Authorities to proceed with their schemes for the erection of Sanatoria, and the matter is so recurring and so important that it seems justifiable to reproduce *in extenso* the report on this subject which I submitted in 1919 to the County Council.

Report on the Sanatorium Needs of the County.

On the introduction of the National Insurance Act a proposal was made that a combination of the Counties of Aberdeen and Kincardine and the City of Aberdeen should be formed for the erection of a Joint Sanatorium, but no definite agreement was come to. Later, there was suggested a combination of the Counties of Aberdeen, Kincardine, Banff, Moray, Nairn, Caithness, Sutherland, Orkney and Shetland, but, early in 1915, the Local Government Board issued instructions that no new buildings should be proceeded with during the war, and, consequently, this scheme was held in abeyance.

Now that the War is over, the newly constituted Scottish Board of Health have advised Local Authorities to proceed with the erection of Sanatoria, as, they assert, much more accommodation will be required in view of the large number of discharged and demobilised sailors and soldiers suffering from tuberculosis. It is therefore incumbent on the Aberdeen County Council to decide whether the sanatorium accommodation at present at their disposal is adequate or not. We shall first consider the provision which at present exists.

Present Sanatorium Provision.

Excluding "private" patients, tuberculous sufferers from the County of Aberdeen are sent to the following Sanatoria :—

1. Noranside Sanatorium, Forfarshire.
2. Newhills Sanatorium, Aberdeenshire.
3. Bridge of Weir Sanatorium, Renfrewshire.

Number of Beds Occupied.

Till now, it has not been the rule to make a strict dividing line between sanatorium and hospital cases. Only early cases should really be sent to sanatoria, but, in practice, it has often been found necessary to send cases to sanatoria which should have been sent to hospitals and *vice versa*. Then, again, one must remember that the personal factor often intervenes. A patient may be recommended to go to a sanatorium, but may decline on the ground that he prefers to go to a hospital near his own home rather than to a sanatorium which is at a considerable distance from it. In such a case, the humanitarian course should be, and is, taken.

In the Astor Report it was recommended that one sanatorium bed should be provided for every 5,000 of population, but, owing to earlier diagnosis of pulmonary tuberculosis and to more active notification by practitioners, this estimate is too low. Experience has shown that a more accurate estimate is one sanatorium bed per 2,500, or even per 2,000 of population. At the 1911 census, the population of the County, including the Burghs, was 159,714; on the basis of 1 bed per 2,500, there would, therefore, be required 64 beds. At any one time we have an average of 58 patients undergoing treatment in sanatoria, and, with an average exception of 4 cases, all of these suffer primarily from pulmonary tuberculosis.

Several factors influence the extent of sanatorium accommodation, and two of the chief of these are the number of notifications and the duration of treatment.

With regard to the number of notifications there has been little yearly variation since 1915, the average number of pulmonary cases being 250.

Opinions differ as regards the necessary duration of treatment. It used to be said that a period of three months was quite sufficient, but it is generally recognised that there are various qualifying elements. If a patient comes under observation at an early stage of the disease, a period of three months, will, for educative purposes, be sufficient, but to get such cases is rather the exception than the rule. Then, again, there is no economic advantage in taking a patient from insanitary surroundings for a short period, improving his physical state, and then dumping him down in similar surroundings to pursue the same occupation which may be of an unsuitable nature. Only where the environment is ideal can the results of such a short period of treatment be maintained.

It may here be remarked that another factor to be reckoned with in determining the extent of sanatorium accommodation is the number of tuberculous persons known to be alive at any one time. In 1913, it was held that the known living cases could be ascertained thus:—

(*a*) The number of pulmonary cases could be estimated by multiplying the number of deaths from pulmonary tuberculosis in any one year by 2.

(*b*) In the case of non-pulmonary tuberculosis, the number known to be alive at any one time could be obtained by multiplying the deaths from this cause by 1·5.

Experience has proved that estimates based on these standards are altogether wrong. The actual number of living cases is more correctly estimated at five times the yearly deaths in the case of pulmonary tuberculosis, and three times the yearly deaths in non-pulmonary tuberculosis.

Defects in the Existing Sanatorium Accommodation.

There are several defects in the existing scheme, and these may be summarised as follows :—

1. There is, amongst a certain class, an aversion to going outside their own area. The accommodation at Newhills Sanatorium, however, is limited, and there is, therefore occasionally a waiting list. There is less difficulty in respect of admissions to Noranside and Bridge of Weir Sanatoria.

2. There are considerable difficulties in having to send patients to several institutions over which the Local Authority has no direct control, and the chief of these is that of keeping in touch with patients while undergoing treatment, of seeing that their needs are satisfied, and of arranging for their supervision and care immediately after discharge.

3. None of the sanatoria to which we send patients have Farm and Industrial Colonies in connection with or attached to them. Complete absence of work after an active life, and the lack of any interest other than personal, have often a deleterious effect and do not conduce to speedy recovery.

Is a New Sanatorium Meantime Necessary ?

We now pass to the question of the advisability or otherwise of the establishment of a new sanatorium. We must consider—

(1) The size of a Sanatorium required for the County of Aberdeen alone.
(2) The cost per bed.
(3) The treatment of surgical tuberculosis.
(4) If greater efficiency would be gained.

(1) *The size of the Sanatorium.*—For pulmonary cases, a sanatorium for the County of Aberdeen alone would require to have accommodation for 55 adults. Then the question would arise of additional beds for observation purposes, for cases of surgical tuberculosis, and for the treatment of pre-tuberculous children. It may be taken that 65 beds would be required.

If a Joint Sanatorium were erected for the use of the County of Aberdeen and of three or four of the neighbouring counties, the minimum accommodation would require to be 100 beds. In 1913, it was estimated that 70 sanatorium beds would be ample provision for the Counties of Aberdeen, Kincardine, Elgin and Nairn, but, in the light of subsequent experience, this number would be inadequate.

(2) *The Cost per Bed.*—The Astor Committee in 1912 estimated that a sanatorium could be erected at a cost of £150 per bed. This sum includes site, administrative and other buildings, water supply and sewerage. In pre-war days, it was estimated that, without undue extravagance, the cost per bed might reach even £250. The present estimate of the cost per bed ranges from £300 to £750, according to the permanency of the buildings. Taking into account the present cost of material and of labour, I do not think that the lower figure is possible. A 100-bed sanatorium of the Speirsesque type would cost a minimum of £400 per bed. With fewer beds, the cost would be greater. If the County of Aberdeen had for its own use a sanatorium of 65 beds, the cost per bed would almost certainly amount to £480. The Treasury have recently agreed to make a capital grant in aid of the provision of new accommodation at the rate of £180 per bed, subject to a maximum grant of three-fifths of the total cost, on condition that the works are completed within two and a half years from the date of the approval of the scheme by the Scottish Board of Health.

3. *The Treatment of Surgical Tuberculosis.*—Additional expenditure would have to be incurred in regard to non-pulmonary or "surgical" tuberculosis. At present these cases are treated at the Aberdeen Royal Infirmary and the Aberdeen Sick Children's Hospital, but, as these institutions have to deal with all cases of general surgery, and as so many emergency operations have to be performed, patients suffering from chronic complaints—and surgical tuberculosis is nearly always chronic—have often to wait for months before being admitted. If a new sanatorium were established, provision would require to be made for the accommodation of cases suffering from non-pulmonary tuberculosis and the services of a surgeon would have to be enlisted.

(4) *Would Greater Efficiency be Obtained?*—As patients are being treated by approved methods in the sanatoria to which they are meantime sent, it is difficult to see how greater efficiency would be gained by the establishment of a new sanatorium, unless a Farm and Industrial Colony were established in connection with the sanatorium.

Conclusion.

The conclusion arrived at, as a result of six years' experience, is that the time is inopportune for the establishment of a County Sanatorium, for the following reasons :—

(1) The cost would be prohibitive. For a sanatorium of 65 beds, at a minimum estimate of £480 per bed, the cost would be £31,200. A sanatorium for the County of Aberdeen and adjacent counties of, say, 100 beds would cost £40,000.

It is unnecessary at this stage to enter into details regarding the probable annual expenditure. The cost of the maintenance and treatment of patients in sanatoria at present varies from 40s. to 45s. per week. If a new sanatorium were erected, the maintenance and treatment charge could not meantime be appreciably lessened.

(2) Such a sanatorium would require to have associated with it a Farm and Industrial Colony, of which it would be almost impossible to estimate the cost and upkeep. It would certainly not be self-supporting for many years.

(3) Sanatorium treatment is itself still on its trial. Medical opinion is changing regarding sanatoria. The sanatorium is merely one link in the chain of treatment. As in other diseases, prevention is as important as, and, in many ways, more important than treatment.

(4) Under the existing scheme, the waiting list for admission of pulmonary cases to sanatoria has been practically abolished, owing to the readiness with which County patients are admitted to the aforementioned sanatoria. I would suggest that steps be taken to reserve a definite number of beds, say, 20 to 25, in Noranside Sanatorium for the use of patients from this County.

(5) There is meantime a deficiency in hospital accommodation, and this has necessitated the sending of advanced cases to sanatoria. To remedy this, I would suggest that additional accommodation for the treatment of tuberculous persons should be provided at the existing Infectious Diseases or other Hospitals in the County.

(6) Although it is not considered advisable meantime to erect a sanatorium, yet the purchase of a farm to which post-institutional cases might

be drafted for further treatment and training is worthy of consideration; but here, again, Farm Colonies are only in the experimental stage.

The above statements will hold good only so long as the existing accommodation prevails. It is not likely that in the immediate future there will be a large increase in the number of notifications, and, consequently, in the number of cases requiring sanatorium treatment. The whole question of the need of a sanatorium for the County of Aberdeen, or for a combination of Counties, will have to be reviewed from time to time.

The views expressed above hold good to-day. The erection of new sanatoria must be held in abeyance for it is quite possible that, just as a "cure" has been discovered for Syphilis in Salvarsan and allied products, so a specific cure may be obtained for tuberculosis. Sanatorium treatment undoubtedly does an immense amount of good and restores—at least for a time—to the ranks of the wage-earners many who would otherwise have died and have left dependents on the rates, but, even at this stage, it is still on its trial. The true value of sanatorium treatment can be obtained only by a comparison between the rates of mortality of patients treated in sanatoria, and of those of similar age, sex and economic status treated on similar lines or untreated; it is obvious that comparisons on these lines cannot be undertaken.

Domiciliary Treatment.

An important branch of the scheme has been the domiciliary or home treatment of tuberculous patients. It has been proved from experience that domiciliary treatment is of comparatively little value without a preliminary course of institutional treatment by which the patient is taught how to live a hygienic and healthy life. To enable patients to carry out open-air treatment at home, shelters are provided by the Committee. In 1913, there were 37 shelters and to-day we have 68. Several of the shelters are becoming somewhat dilapidated from their being frequently moved about from place to place, but a few new and up-to-date shelters have been acquired from time to time. The Committee meet the cost of upkeep of the shelters and of their removal from place to place. Only post-institutional cases as a rule use shelters to the best advantage, for it is quite common to find that patients who have not had the benefit of a course of institutional treatment keep all the windows closed, thus creating a stuffy and unhealthy atmosphere. The great advantage of shelter treatment is that it enables post-institutional cases to continue the practice of the principles of sanatorium treatment.

Special food substances are granted to patients undergoing domiciliary treatment, provided that their circumstances are necessitous. These grants are not in substitution for parish relief which has merely to do with the ordinary maintenance of the individual. The grant of food substances is meant to constitute additional and necessary foods for the invalid. Formerly the grant comprised not merely foods but also medicines. The latter, however, could be given only to those patients who were also in receipt of special foods. Since July, 1921, the Local Authority, on the instructions of the Scottish Board of Health, has assumed responsibility for payment of drugs for all patients, both insured and uninsured, who are suffering from tuberculosis and whose names appear on the Domiciliary Register of the Medical Officer of Health, if the illness for which the medicine is prescribed is attributable to the tuberculous condition.

Domiciliary treatment can never be complete without the services of nurses, and all cases should, where possible, receive such attention. A scheme dealing with the provision of efficient nursing in the County was under the consideration of the County Council for some years, but it was not until 1921 that the County Nursing Association was definitely inaugurated. An account of the Association and of its affiliated District Nursing Associations is contained in another part of this Report.

Dispensary Treatment.

The Central Dispensary at 16, Golden Square, Aberdeen, was opened in 1914. Actual sufferers, "contacts," and suspected cases are examined. Post-institutional cases call periodically, and specific treatment (*e.g.*, injection of tuberculin and of autogenous and other vaccines) commenced in the sanatorium is here continued. Special cases are also treated by remedial exercises and massage. The average yearly number of patients who visited the Dispensary was 210 and the average yearly number of visits made was 572. The Dispensary is really a clearing house, and, at the same time, it serves as a depôt for the distribution of such necessities as sputum cups, paper handkerchiefs, inhalation masks, educational leaflets, &c. Temporary branch dispensaries have been established at Fraserburgh and Huntly.

Administrative Procedure.

When the scheme was instituted the Insurance Committee defrayed the cost of the treatment of tuberculous insured persons and the tuberculous dependents of insured persons, but, as long ago as 1916, it was found that the funds at the disposal of the Committee were totally inadequate to meet the expenditure incurred in connection with the treatment even of insured persons. As time went on the funds became more embarrassed, and towards the end of the War the Insurance Committee could only meet the cost of the domiciliary treatment of insured persons, and of the institutional treatment of those ex-service men in respect of whom they received a special Government grant. From 1st January, 1921, the Committee ceased to administer sanatorium benefit, and the cost of the treatment of all tuberculous patients, whether treated in institutions or at home, thereafter devolved on the Local Authority. Although this has placed an increased financial burden on the Local Authority, administration generally has been simplified, and no patient can be said to have suffered in consequence of the change.

The Shortcomings of the Scheme.

Several points connected with the scheme have from time to time been brought under observation, but, for various reasons, chiefly financial, it has not been deemed possible to deal with them. Attention has been drawn to the necessity for the institution of an After-Care Committee, representative of all public bodies, to find suitable employment for post-institutional cases and to tide such patients over the period of financial stress which usually intervenes between discharge from the institution and return to work.

The question of Farm and Industrial Colonies has also repeatedly been dealt with. Such Colonies which must be worked in conjunction with sanatoria have as their objective the treatment of patients, combined with training in their former occupations or in new ones suited to their physical ability. A Colony of this kind, on a small scale, may soon be started at Newhills Sanatorium. An extension of the Colony System is the Permanent Village Settlement which provides for the settlement both of the patient and his dependents in sanatorium surroundings. There is one such Settlement at Papworth, Cambridgeshire; it is scarcely self-supporting, but the idea is sound and the Settlement is not locally regarded as a " leper " colony.

Another defect in our scheme is the absence of any definite system of dental treatment. A great number of phthisical cases suffer from pyorrhœa, and, because no scheme exists for the treatment of this condition, they are often sent to institutions without having their teeth attended to. The continued presence of pyorrhœa increases the existing toxæmia, and militates against the recovery of the patient. In one or two of the institutions some attempt has been made to get treatment for the patients, but no additional charge is made therefor against the Committee. Under the Co-ordinated Scheme, with its improved facilities, it will be possible to have the in-patients at least treated by the whole-time dentists.

Again, the Committee has no X-ray plant and no one will deny the importance of radiography as an adjunct in the diagnosis of tuberculosis. During the past two years, the City Medical Officer of Health has had skiagrams taken of County patients at the City Hospital, Aberdeen, at most reasonable charges.

Conclusion.

It will thus be seen that the Tuberculosis Scheme, as operating in Aberdeenshire, is comprehensive and as complete as present conditions will allow. It has its central dispensary, its branch dispensaries, its sanatoria and its hospitals. Moreover, there is an extensive system of domiciliary treatment, including the supply of shelters and of food substances to selected cases. Although the County has not a sanatorium of its own, nevertheless the accommodation which has been secured adequately meets the needs of the area.

The importance of the prevention of tuberculosis is gradually being realised. In tuberculosis, as in other diseases, too much attention has in the past been paid to treatment and too little to prevention. The preventive aspect of the tuberculosis problem was most adequately met when the County Council in 1924 decided to allow patients of from 3 to 13 years of age who were suffering from quiescent tuberculosis, or who were in a pre-tuberculous condition, to be sent to Linn Moor Convalescent Home, Culter. In my opinion, this is one of the most definite steps towards effective prevention because if treatment commences when the child is young, when the tissues are pliable and before the disease has got a definite hold, the prospect of ultimate recovery with robust health in adult life is all the more likely. Tuberculosis is an infectious disease, and the chief avenues of prevention lie in endeavouring to prevent tuberculous persons and animals from disseminating tubercle bacilli and in trying to improve the general health and nutrition of the community, thus rendering it less susceptible to this dread disease.

Statistics.

Number of Notifications.

The County Tuberculosis Scheme embraces the eight Districts of the County and the ten Burghs. The population of this area, as ascertained at the 1921 Census, was 153,392, and the inter-censal population, as estimated by the

Registrar General for the middle of 1925, was 147,903. The total area in acres was 1,255,652 and the density of population (*i.e.* number of persons per acre) was ·12. The number of inhabited houses in the area was 32,943.

In 1925, the total number of cases notified was 375 and of these 227 suffered from pulmonary disease and 148 from non-pulmonary disease. Four cases were re-notified and there were six transfers, *i.e.* patients who had been found suffering from the disease in other areas, whose cases were notified to the Medical Officers of Health of these areas, and who were again notified on coming into the area covered by our scheme. The actual number of cases, therefore, was 365.

The "Public Health (Tuberculosis) Regulations (Scotland), 1914," whereby all types of tuberculosis were made notifiable, came into operation on 1st July, 1914. Table I. gives a list of the notifications from 1914 to 1925. The total number of pulmonary cases notified during these years was 2,845, and the number of non-pulmonary cases 1,285. The average yearly number of notifications since 1914 was 344, and of these the pulmonary average was 237 and the non-pulmonary average 107. Since 1919, there has been an increase in the ratio of non-pulmonary to pulmonary cases.

TABLE I.

Notifications during years 1914-1925.

YEAR.	Pulmonary Tuberculosis.	Non-Pulmonary Tuberculosis.	Total.
1914	191	40	231
1915	267	75	342
1916	259	134	393
1917 . . .	210	89	299
1918	235	79	314
1919	242	100	342
1920	266	101	367
1921	263	90	353
1922	244	124	368
1923	236	145	381
1924	213	162	375
1925 . . .	219	146	365
Totals . . .	2,845	1.285	4,130

The notification rate per 1.000 of population from 1914 to 1925 is given in Table II.; the notification rate per 10.000 of population in each of the Districts and Burghs appears on Table III.

TABLE II.

Notification-Rate per 1,000 of Population.

	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	**1925**
Pulmonary . .	1·2	1·6	1·6	1·3	1·5	1·5	1·6	1·7	1·6	1·5	1·4	**1·5**
Non-Pulmonary .	·3	·5	·8	·6	·5	·6	·7	·6	·8	·9	1·0	**·9**
Total . . .	1·5	2·1	2·4	1·9	2·0	2·1	2·3	2·3	2·4	2·5	2·4	**2·5**

TABLE III.

Area.	Rate of Notification per 10,000 of Population.	
	Pulmonary.	Non-Pulmonary.
DISTRICTS—		
Deer	14·9	14·1
Ellon	14·8	5·4
Garioch	14·2	10·9
Deeside	22·1	8·5
Turriff	14·6	5·8
Aberdeen	14·3	6·3
Alford	10·9	3·6
Huntly	8·2	11·4
BURGHS—		
Ballater	—	6·1
Ellon	8·2	—
Fraserburgh	14·5	8·7
Huntly	8·6	8·6
Inverurie	16·7	—
Kintore	42·9	57·3
Oldmeldrum	10·4	20·8
Peterhead	15·3	20·2
Rosehearty	8·1	40·7
Turriff	34·3	—
Whole County	14·8	9·9

Sources of Notification.

The sources of notification were as under :—

1.	Notified by General Practitioners	331
2.	,, Medical Officers of Mental Institutions	12
3.	,, County Medical Officer of Health	9
4.	,, Medical Officers of Medical and Surgical Hospitals	8
5.	,, Medical Officers of Health of other areas (" Transfers ")	6
6.	,, Assistant Medical Officers of Health (Schools)	5
7.	Re-notifications	4
	Total	375

In connection with cases notified when resident in Mental Institutions, no action is taken by the Public Health Department. Eight cases were notified by the surgeons and physicians of the Aberdeen Royal Infirmary and the Aberdeen Sick Children's Hospital, where an appreciable proportion of the cases of surgical tuberculosis, especially tuberculous cervical glands, tend to gravitate; the operations in these institutions are performed most efficiently, but, unfortunately, the waiting lists are so large that the necessary period of convalescent in-door treatment cannot be given. In my opinion, nearly all cases suffering from tuberculous cervical glands should have a fairly prolonged period of institutional treatment—unless the home conditions are very favourable—in order to avoid the likelihood of a recurrence of the complaint in later life.

Localisation of the Disease.

In the following Table the notifications are divided according to the part of the body affected :—

TABLE IV.

Lungs	219
Glands	80
Bones and Joints	28
Abdomen	16
Brain Membranes	8
Other Sites	14
Total	365

Of the 219 who were notified as suffering from pulmonary tuberculosis, 11 suffered also from tuberculous cervical glands, 5 from tuberculous laryngitis and 3 from generalised tuberculosis. Tuberculous laryngitis is practically always a secondary disease—a complication of pulmonary tuberculosis. A rather peculiar phenomenon has been discovered in connection with the treatment of this complication. Patients suffering from tuberculous laryngitis, especially in its advanced stage, usually suffer a considerable amount of pain and discomfort on swallowing; with treatment by ultra-violet rays, the pain and discomfort disappear, but, almost without exception, the primary or pulmonary lesion becomes acute and grossly toxic symptoms supervene.

Age and Sex Distribution.

The distribution of cases according to age and sex is detailed in Table V. Eighteen cases were notified aged 55 years and over. There were only three cases notified under 1 year of age and all suffered from non-pulmonary or surgical tuberculosis. Thirty-seven cases aged from 1 to 5 years were notified. The notifications of children of school age numbered 80.

TABLE V.

Age Period.	Pulmonary.		Non-Pulmonary.		Total.
	Male.	Female.	Male.	Female.	
Under 1 year	—	—	2	1	3
1—5 years	2	4	19	12	37
6—10 ,,	9	3	8	16	36
11—15 ,,	6	14	14	10	44
16—20 ,,	14	10	17	8	49
21—25 ,,	12	16	6	10	44
26—30 ,,	16	20	4	3	43
31—35 ,,	10	12	3	5	30
36—40 ,,	7	12	—	2	21
41—45 ,,	4	8	—	1	13
46—55 ,,	11	12	3	1	27
Over 55 ,,	12	5	—	1	18
Total	103	116	76	70	365

Seasonal Prevalence.

In Table VI. the cases are grouped according to the quarter of the year in which notification was made.

Table VI.

Areas.	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Total.
Rural	55	93	56	55	259
Burghal	30	34	25	17	106
Total	85	127	81	72	365

Occupational Incidence.

The occupations engaged in by the notified cases were as follows :—

Table VII.

Male.

Schoolboys	38	Engineer	1
Farm Servants	29	Farmer's Son	1
Children	19	Granite Polisher	1
Labourers	12	Hospital Porter	1
Farmers	5	Ironmonger	1
Fishermen	5	Manager, Oil Wells	1
Blacksmiths	3	Mashman	1
Chauffeurs	3	Miller	1
Coopers	3	Millworker	1
Gardeners	3	Minister	1
Joiners	3	Painter	1
Railway Workers	3	Pilot	1
Bakers	2	Police Constable	1
Commercial Travellers	2	Postman	1
Drapers	2	Prison Warder	1
Ex-Soldiers	2	Roadman	1
Gamekeepers	2	Sandstone Dresser	1
Grocers	2	Sawmill Worker	1
Quarry Workers	2	Sawyer	1
Seamen	2	Scavenger	1
Shoemakers	2	Shopkeeper	1
Bank Clerk	1	Stationmaster	1
Chemist's Assistant	1	Stores Manager	1
Clerk	1	Student	1
Clubmaker	1	No occupation	4
Coal Merchant	1		
Cycle Mechanic	1	Total	179
Driller	1		

Female.

Housewives	44	Typists	2
Domestic Servants	37	Chemist	1
Schoolgirls	37	Clerkess	1
Children	15	Dressmaker	1
Nurses	6	Laundry Worker	1
Housekeepers	5	Millworker	1
School Teachers	4	Tram Conductress	1
Shop Assistants	4	No occupation	20
Dairymaids	2		
Fishworkers	2	Total	186
Students	2		

No occupation in the County can be said to contribute a specially large number of cases of tuberculosis.

Bacteriological Examinations.

During 1925, 536 samples of sputum were examined for tubercle bacilli, as compared with 531 in 1924 and 475 in 1923. The sources of the samples and the results of the examinations are shown in Table VIII. and comparison is made with the numbers examined since the setting up of the County Bacteriological Laboratory in 1920.

There were 65 examinations of miscellaneous materials for tubercle bacilli and the results are given in Table IX.

TABLE VIII.

Source of Specimens	1920				1921				1922				1923				1924				1925			
	Total	Positive	Negative	Per-centage Positive	Total	Positive	Negative	Per-centage Positive	Total	Positive	Negative	Per-centage Positive	Total	Positive	Negative	Per-centage Positive	Total	Positive	Negative	Per-centage Positive	Total	Positive	Negative	Per-centage Positive
(1) General Practitioners	240	63	177	26	289	68	221	24	235	31	204	13	276	40	236	14	318	54	264	17	299	47	252	16
(2) Tuberculosis Medical Officer	161	63	98	39	56	18	38	32	64	16	48	25	32	8	24	25	48	12	36	25	13	5	8	38
(3) Institutions .	100	47	53	47	176	108	68	61	210	104	106	50	167	91	76	54	165	111	54	67	224	135	89	60
Total . .	501	173	328	34·5	521	194	327	37·2	509	151	358	29·7	475	139	336	29·3	531	177	354	33	536	187	349	35

CHART F.

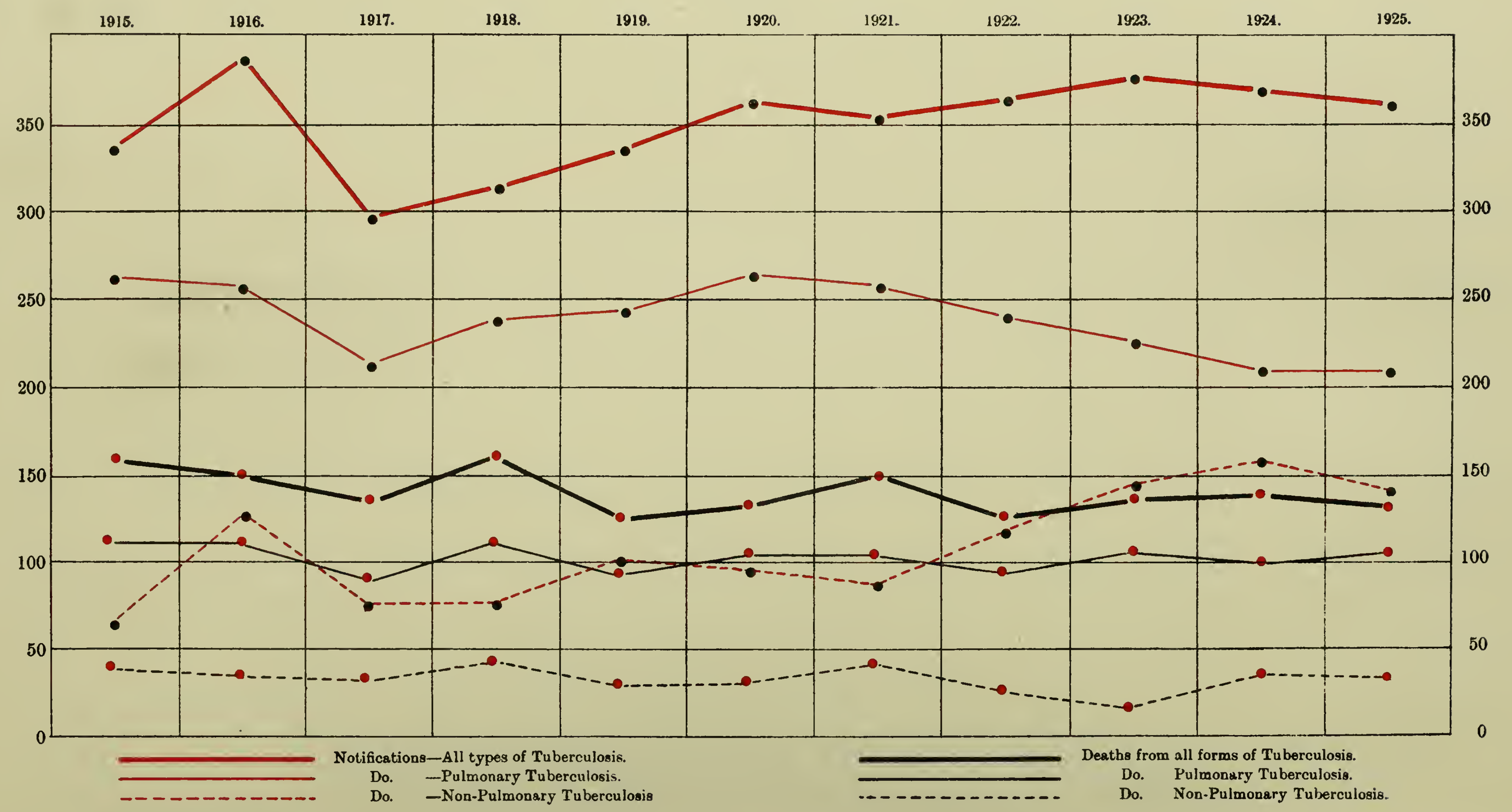

1915.
1916.
1917.
1918.
1919.
1920.
1921.
1922.
1923.
1924.
1925.
350
300
250
200
150
100
50
0
Notifications—All types of Tuberculosis.
Do. —Pulmonary Tuberculosis.
Do. —Non-Pulmonary Tuberculosis
Deaths from all forms of Tuberculosis.
Do. Pulmonary Tuberculosis.
Do. Non-Pulmonary Tuberculosis.

TABLE IX.

Bacteriological Examinations—Miscellaneous Materials.

Miscellaneous Materials.	1920			1921			1922			1923			1924			1925		
	Total	Pos.	Neg.	Total	Pos.	Neg.	Total	Pos.	Neg.	Total	Pos.	Neg.	Total	Pos.	Neg.	Total	Pos.	Neg.
Urine . . .	23	1	22	25	6	19	45	5	40	23	—	23	35	3	32	41	1	40
Pleural Effusion .	10	1	9	7	—	7	7	—	7	9	—	9	9	—	9	5	—	5
Pus . . .	5	1	4	11	1	10	12	—	12	7	1	6	7	1	6	9	—	9
Cerebro-spinal Fluid	2	—	2	4	—	4	2	—	2	1	—	1	—	—	—	6	1	5
Fæces . .	1	—	1	—	—	—	3	—	3	8	—	8	—	—	—	4	—	4
Vomit . . .	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Gland . . .	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—
Blood . . .	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—
Milk . . .	—	—	—	—	—	—	—	—	—	1	—	1	14	3	11	—	—	—
Total . .	42	3	39	48	8	40	70	5	65	49	1	48	65	7	58	65	2	63
Percentage .	100	7	93	100	17	83	100	7	93	100	2	98	100	11	89	100	3	97

The numbers of autogenous vaccines prepared in each year since 1920 were as follows:—

1920	33	Autogenous Vaccines.
1921	53	,, ,,
1922	47	,, ,,
1923	91	,, ,,
1924	66	,, ,,
1925	69	,, ,,

Mortality.

The number of cases suffering from all forms of tuberculosis who were notified during 1925 and who died before the end of the year was 54. The percentage of deaths to notifications was 14·8 as against 14 in 1924.

A comparison of the number notified in each year since 1915, with the number who died from all forms of tuberculosis, from pulmonary tuberculosis and from non-pulmonary tuberculosis, is shown in the accompanying chart.

Deaths from all forms of tuberculosis in the County numbered 144, as against 138 in 1924 and 142 in 1923. Of the 144 deaths, 112 were attributed to pulmonary tuberculosis and 32 to non-pulmonary tuberculosis. In Table X. information is given as to the total number of deaths, the deaths from tuberculosis and from all respiratory diseases, except phthisis, and also the percentage of deaths from tuberculosis to total deaths, and of deaths from all respiratory diseases, except phthisis, to total deaths.

TABLE X.

	Total Number of Deaths.	Deaths from			Percentage of Deaths from Tuberculosis to Total Deaths.	Percentage of Deaths from all Respiratory Diseases (except Phthisis) to Total Deaths
		Tuberculosis.		All Respiratory Diseases (except Phthisis).		
		Pulmonary.	Non-Pulmonary.			
COUNTY DISTRICTS—						
Deer	343	14	6	31	5·8	9·03
Ellon	134	10	2	16	8·9	11·9
Garioch	143	9	5	19	9·7	13·2
Deeside	137	10	3	18	9·5	13·1
Turriff	125	10	2	14	9·7	11·2
Aberdeen	235	18	5	26	9·7	11·06
Alford	117	6	1	16	5·9	13·6
Huntly	77	1	2	10	3·8	12·9
BURGHAL DISTRICTS—						
Ballater . . .	7	1	—	1	14·3	14·3
Ellon	23	2	—	4	8·6	17·3
Fraserburgh . . .	122	10	—	8	8·1	6·5
Huntly	59	3	1	6	6·7	10·1
Inverurie . . .	56	2	1	6	5·3	10·7
Kintore	12	1	—	1	8·3	8·3
Oldmeldrum . . .	12	2	1	—	25	—
Peterhead . . .	166	6	3	21	5·4	12·6
Rosehearty . . .	30	2	—	3	6·6	10
Turriff	41	5	—	4	12·1	9·7
Totals . .	1,839	112	32	204	7·8	11·09
Corresponding figures for 1924 . . .	1,984	101	37	255	6·9	12·9

The death-rate from pulmonary tuberculosis throughout Scotland was 76 per 100,000, and, from all forms of tuberculosis, 110 per 100,000. In Aberdeenshire, the death-rate per 100,000 was 75·7 for pulmonary tuberculosis and 21·6 for non-pulmonary tuberculosis.

Investigation was again made into the period which elapsed between notification and death. About 25 per cent. of the deaths occurred within three months of notification and this was in some instances accounted for by the active nature of the disease, and in others by the delay in calling in medical advice. In 15 cases no notifications were received prior to death, owing to (1) the rapid course of the disease, *e.g.* meningitis; (2) the practitioners being under the impression that, from the fibroid or chronic character of the disease, the cases had previously been notified by other practitioners; and (3) the diagnosis only having been definitely made on the operating table.

The following Table is instructive as it shows the proportion of deaths from phthisis to deaths from all causes in age-groups :—

TABLE XI.

Area.	Total Deaths from all Causes. Age Groups.					Total.	Deaths from Pulmonary Tuberculosis. Age Groups.					Total.	Percentage of Deaths from Pulmonary Tuberculosis to Total Deaths.
	0–15	16–25	26–45	46–65	Over 65		0–15	16–25	26–45	46–65	Over 65		
Deer . .	67	9	36	109	122	343	8	2	3	1	—	14	4·0
Ellon . .	33	8	14	47	32	134	1	6	3	—	—	10	7·4
Garioch .	36	5	18	47	37	143	3	1	5	—	—	9	6·2
Deeside .	19	4	9	55	50	137	3	2	1	4	—	10	7·3
Turriff . .	38	8	11	33	35	125	4	4	2	—	—	10	8
Aberdeen .	47	8	27	76	77	235	6	4	4	4	—	18	7·6
Alford . .	25	4	11	41	36	117	2	—	2	2	—	6	5·1
Huntly .	18	3	7	24	25	77	—	1	—	—	—	1	1·3
Total .	283	49	133	432	414	1311	27	20	20	11	—	78	5·2
Ballater .	—	—	1	4	2	7	—	—	—	1	—	1	14·2
Ellon . .	9	—	2	4	8	23	1	—	—	1	—	2	8·7
Huntly .	8	4	8	19	20	59	—	1	2	—	—	3	5·1
Inverurie .	7	2	6	24	17	56	—	—	2	—	—	2	3·5
Kintore .	4	—	1	3	4	12	1	—	—	—	—	1	8·3
Fraserburgh .	39	4	25	36	18	122	4	2	4	—	—	10	8·2
Turriff . .	7	1	2	12	19	41	2	1	1	1	—	5	12·2
Rosehearty .	6	4	1	8	11	30	—	—	1	1	—	2	6·6
Oldmeldrum .	1	1	3	3	4	12	—	1	—	1	—	2	16·6
Peterhead .	62	6	16	44	38	166	1	3	1	1	—	6	3·6
Total .	143	22	65	157	141	528	9	8	11	6	—	34	6·4

The conclusions to be drawn from an investigation of the tuberculosis death-rate in the County are :—

1. The death-rate in the County of Aberdeen is less and has invariably been less than that for the whole of Scotland.
2. Males suffer more from both pulmonary and non-pulmonary tuberculosis than do females.
3. During the War years, there was an increase in the tuberculosis death-rate generally, but this is not statistically borne out in the County owing to the comparatively small numbers dealt with.
4. Taking deaths which occurred between the ages of 16 and 25, we find that the percentages of deaths from pulmonary tuberculosis to total deaths from this cause was 25.

Disinfection of Premises.

Seventy disinfections of houses and shelters were carried out by the Sanitary Inspectors. Disinfection is resorted to after the death of patients, and after the removal of patients to institutions or to other houses, if the cases are suffering from pulmonary disease and are regarded as "open" or infectious cases.

The usual official method of disinfection employed is the Formalin Spray, the clothes, &c., being removed to the Infectious Diseases Hospital for steam disinfection. In very infectious cases who have been bedfast for a considerable time prior to death, advice is given to strip the paper off the walls.

It has repeatedly been pointed out that, to allay the fears of the laity, official disinfection is often carried out quite unnecessarily and at considerable expense. Sunlight, the free access of fresh air, and plenty of soap and water applied to surfaces and materials supposed to be infected are much more efficacious as disinfecting agents than are gaseous disinfectants.

Institutional Treatment.

In Table XII. are given particulars as to (*a*) the numbers under treatment in tuberculosis institutions at 1st January, 1925, (*b*) new cases admitted during that year, (*c*) re-admissions, and (*d*) numbers remaining under treatment at the end of 1925.

Table XII.

Institutions.	Under Treatment at 1st January, 1925.		New Cases Admitted during 1925.		Re-admissions.		Remaining under Treatment at end of 1925.	
	Insured.	Uninsured	Insured.	Uninsured	Insured.	Uninsured	Insured.	Uninsured
Sanatoria . . .	40	30	48	48	10	10	35	34
Hospitals . . .	21	53	23	72	9	6	26	61
Totals . .	61	83	71	120	19	16	61	95
	144		191		35		156	

One hundred and ninety-one new cases were admitted; 35 patients were admitted for the second or third spell of treatment and 144 had not completed treatment at the beginning of the year. The total number who received institutional treatment was therefore 370, as compared with 368 in 1924.

Speaking generally, cases of early tuberculosis are sent to sanatoria, and more advanced cases to hospitals. It might here be appropriate to give a short description of the several institutions to which County patients were sent during 1925.

Newhills Sanatorium.—This institution is situated about six miles from Aberdeen, in the neighbourhood of Bucksburn. The female patients are accommodated in the administrative block, while the male patients occupy shelters within the grounds of the institution. The situation is good. During the year a Tungsten Arc Lamp was installed for the treatment of cases suffering from non-pulmonary tuberculosis.

The weekly average of in-patients from the County was 33. The total number treated in this institution during the year was 84.

The cost per week per patient is £1 17s. 6d.

Noranside Sanatorium is situated mid-way between Forfar, Kirriemuir and Brechin. It has a bed accommodation of 118 and the average weekly number of patients from this County was 35.

The cost per week per patient is £2 7s. 3d. The total number of patients treated during the year was 81.

Bridge of Weir Sanatorium, Renfrewshire.—There is no arrangement whereby a definite number of beds is reserved for our patients in this institution, but accommodation is provided from time to time for cases requiring such special operative treatment as the induction of artificial pneumothorax. In this institution, graduated exercises are practised under medical supervision.

Nine County patients were treated in this institution in 1925. The cost per week per patient is £2 5s.

Nordrach-on-Dee Sanatorium, Banchory.—One County patient was treated in Nordrach-on-Dee Sanatorium, the Joint Committee for Public Health Services being responsible for one-half of the cost of treatment. The circumstances governing the admission of patients to this and to Tor-na-Dee Sanatorium are special, and the financial arrangement is that the patient must pay one-half of the cost of treatment.

The weekly charge for this case was £6 6s., for which the Joint Committee was responsible to the extent of £3 3s.

Tor-na-Dee Sanatorium.—This Sanatorium is situated at Murtle. This is an excellently equipped institution, with an expert medical staff. Eleven County patients were treated, and the usual charge per patient was £6 6s. per week, for which the Joint Committee was responsible to the extent of one-half of this sum.

Thomas Walker Hospital, Fraserburgh.—This Hospital is situated in the Burgh of Fraserburgh. Sixty-six patients were treated therein during the year, and several of these suffered from surgical tuberculosis, which required operative treatment. The bed accommodation is approximately 30 and the cost per week per patient is £1 15s.

Peterhead Burgh Hospital.—Since the War, the accommodation for tuberculous patients has been increased by the erection of two annexes. The total number of patients who received treatment in this Hospital in 1925 was 29. The charge per week per patient is £2 2s.

Forgue Cottage Hospital.—This Hospital is situated between Huntly, Turriff and Insch. Its bed accommodation is 8, and, during the year, 17 patients were treated in the institution. The great disadvantage of the institution is that it is far removed from direct medical supervision, the visiting medical officer being resident in Huntly. The weekly charge is £1 12s. 6d. per patient.

Insch and District War Memorial Hospital.—Nineteen patients were treated in this institution. It is a Cottage Hospital, and only cases of surgical tuberculosis are admitted. Two beds are reserved for the treatment of County cases, and the payment made is at the rate of £20 per bed per annum, whether occupied or not, with 25s. per patient per week.

City Hospital, Aberdeen.—In 1925, ten special cases were admitted to the Tuberculosis Wards of the Aberdeen City Hospital through the courtesy of the City Medical Officer of Health. The weekly charge per patient is £2 5s. 6d.

Kincardine O'Neil War Memorial Hospital, Torphins, was opened in November, 1924. Two beds are reserved for maternity cases under the Maternity Service and Child Welfare Scheme and an occasional case of surgical tuberculosis is admitted. The rate is £20 per annum per bed for each reserved bed, whether occupied or not, and 25s. per week per patient.

Linn Moor Convalescent Home, Culter.—In 1907, the Committee who had charge of the "Fresh Air Fortnight Scheme" purchased a cottage about two miles from Culter. The cottage is situated on the edge of a natural moor, approximately eight acres in extent. This is the original Convalescent Home. Additions were made in the form of lateral annexes; a good and plentiful water supply was introduced and the formal opening of the Home took place on 27th June, 1908.

At first there was accommodation for 50 patients. Last year, a further annexe was built through the generosity of Mrs. J. A. Ross, one of the Managers of the Home, and, at the same time, the sanitary conveniences were made adequate and up-to-date. At present 90 children can be accommodated.

According to the Constitution of the Home, batches of children have been sent out during the school holidays for fortnightly periods, but it is evident that an institution of this kind, if properly staffed with nurses, would be of more service to the community if used as a "Preventorium" for children threatened with serious ailments rather than for those who are sent to this institution for short periods and chiefly because of unsatisfactory home conditions to which perforce they have soon to return.

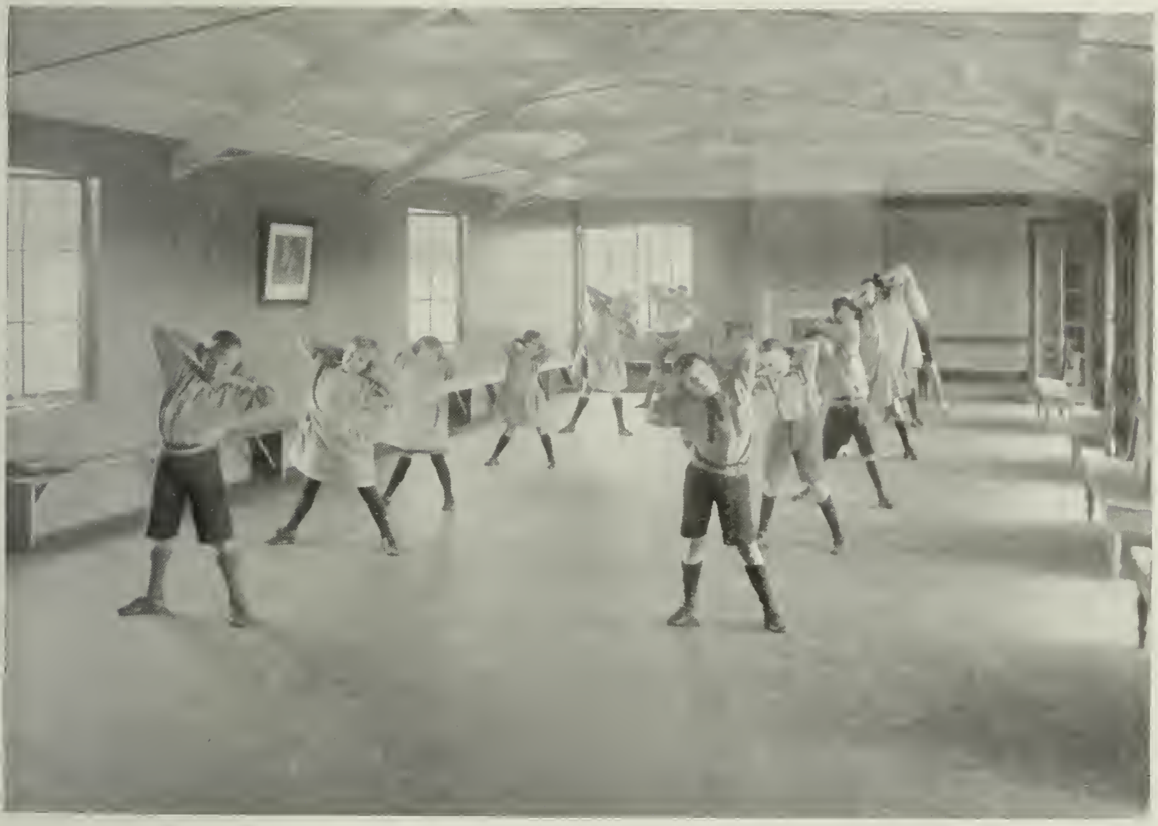
Accordingly in June, 1924, a Joint Meeting of the Sanatorium Benefit Committee and the Maternity Service and Child Welfare Committee was held with a view to considering a proposal that an arrangement should be come to with the Managers of the Home whereby County children suffering from intra-thoracic adenitis, from non-infectious pulmonary tuberculosis or from what may be termed pre-tuberculous conditions, might be admitted for treatment.

The Committee decided to avail themselves of this opportunity and patients are now sent to this institution at a weekly charge of 15s. per patient as compared with a charge varying from 32s. 6d. to 45s. 6d., the cost obtaining in other tuberculosis institutions. In 1924, 25 patients were treated in Linn Moor Home; in 1925, 42 patients were treated. The ages of those admitted range from three to thirteen years.

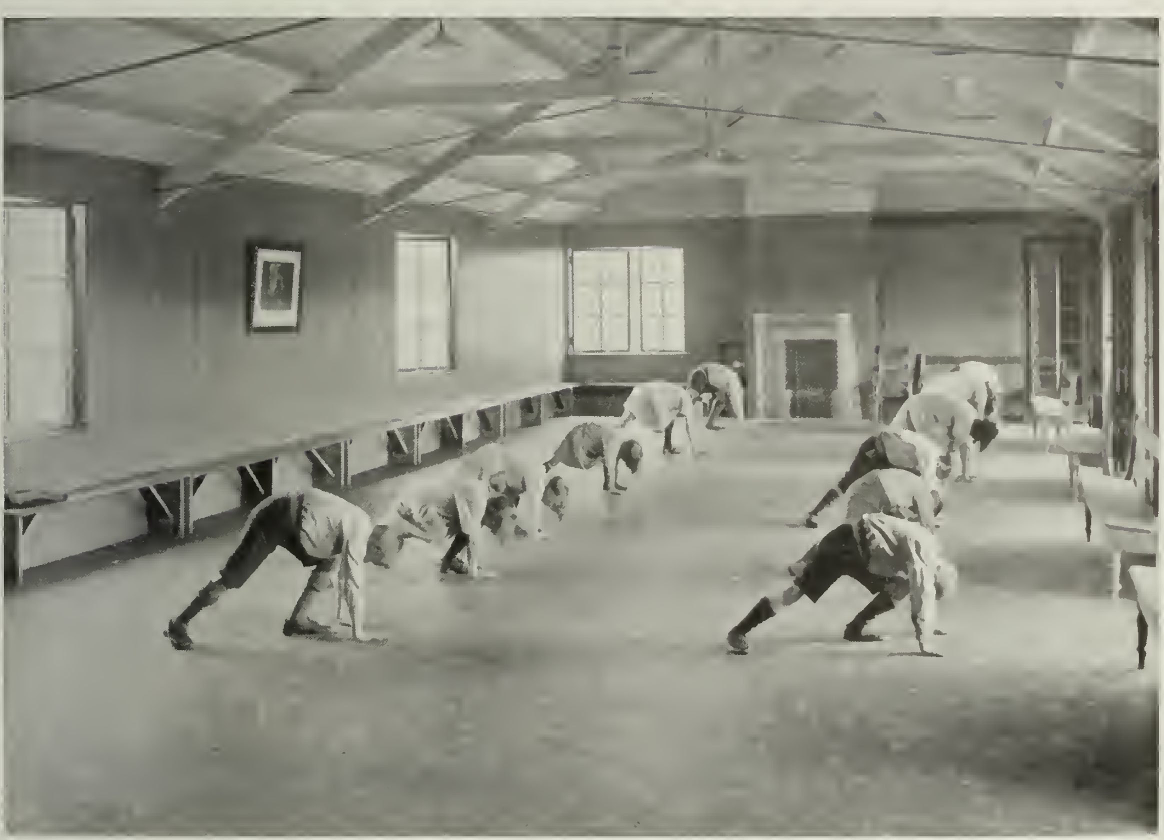
In my opinion, this is one of the most valuable institutions inasmuch as it is run on purely preventive lines. The children receive remedial exercises, graduated according to their physical condition from the Remedial Expert. The value of this branch of preventive work will later be dealt with in detail.

The following Table gives the numbers of each sex treated in the various institutions in 1925 :—

LINN MOOR CONVALESCENT HOME, CULTER.



LINN MOOR HOME—Children undergoing REMEDIAL EXERCISES.



LINN MOOR HOME—REMEDIAL EXERCISES.

Table XIII.

Institutions.	Insured.		Uninsured.		Total.
	Male.	Female.	Male.	Female.	
Sanatoria—					
Newhills	28	8	20	28	84
Noranside	36	19	9	17	81
Bridge of Weir	2	2	—	5	9
Tor-na-Dee	2	2	6	1	11
Nordrach-on-Dee	—	—	—	1	1
Hospitals—					
Thomas Walker	24	6	16	20	66
Peterhead	8	2	3	16	29
Forgue Cottage	4	4	3	6	17
Aberdeen City	1	—	6	3	10
Insch War Memorial . . .	2	1	10	6	19
Kincardine O'Neil War Memorial	—	—	—	1	1
Home—					
Linn Moor Convalescent . .	—	—	18	24	42
Totals	107	44	91	128	370

Duration of Treatment.

The average length of stay in institutions was 225 days, account being taken only of those patients who completed treatment during the year, irrespective of the date of admission. Details are shown in Table XIV.

Table XIV.

Institutions.	Insured Cases.		Uninsured Cases.		Average duration of Treatment.		
	No. of Patients.	No. of "In-Patient Days."	No. of Patients.	No. of "In-Patient Days."	Insured Cases.	Uninsured Cases.	Both Insured and Uninsured Cases.
Sanatoria . .	60	12,933	49	9,282	215	189	203
Hospitals . .	30	6,120	80	21,045	204	263	247

As regards sanatorium patients, the average length of treatment was 203 days, and, in the case of hospital patients, 247 days. There follows a summary of the average duration of institutional treatment (which combines the treatment of both sanatorium and hospital cases) since 1914 :—

1914	157 days.
1915	134 ,,
1916	144 ,,
1917	131 ,,
1918	155 ,,
1919	169 ,,
1920	162 ,,
1921	180 ,,
1922	225 ,,
1923	165 ,,
1924	196 ,,
1925	225 ,,

The period of treatment in 1925 was undoubtedly the longest since the commencement of the Scheme with the exception of 1922 when the average period was also 225 days. The factors which contributed to the lengthy stay in institutions were :—(1) a diminution in the number of surgical cases in whom the treatment is short, with the exception of tuberculosis of the bones and joints, (2) the discharge or death during the year of many advanced cases who, because of the presence of gross symptoms of a persistent character or of unsuitable home environment, had to receive treatment for prolonged periods, and (3) the growing willingness of the patients to undergo treatment sufficiently long to enable them to regain the maximum attainable degree of remunerative capacity.

Every effort is made to curtail the period of institutional treatment which is naturally the most expensive form of treatment, but it is quite impossible to say that any patient, on admission, will require *only* three months of treatment. Each case must be treated on its merits and the period of treatment necessary can be determined only after the patient has been under institutional observation for some weeks, or, it may be, months.

It not infrequently happens that the sufferer struck down with tuberculosis is the breadwinner of the family, and, on discharge from the sanatorium or hospital, he has to return to work before complete quiescence of the disease has been reached, and, the result is almost invariably a relapse with a bleaker ultimate outlook than ever. From an economic point of view, it would be of advantage if the State were to give some relief, in supplement to the National Health Insurance Benefit, to these cases who, in this part of the country at least, are certainly not prone to apply for parochial assistance. As against this, it might quite justifiably be argued that similar relief should be given to sufferers from two diseases—which are as dire in their manifestations as tuberculosis—namely Cancer and Diabetes, but, as yet no schemes are in operation for the adequate control and treatment of these affections.

Domiciliary Treatment.

The importance of domiciliary treatment cannot be gainsaid for even in institutional cases it is seldom that such cases return home in a fit condition to resume their everyday employment. Domiciliary treatment may assume various forms. In all its forms it ought to include visitation by the family doctor, by the District Nurses and by members of the Public Health Medical Staff. In addition, special foods may be given to necessitous cases when such foods are considered to be necessary as an adjunct to treatment. Then again where the home conditions are unsatisfactory for purposes of treatment, shelters may be supplied.

The housing conditions were investigated in each case, and 8 per cent. of the houses visited were unsatisfactory owing to structural defects, to lack of cleanliness or to overcrowding. The Sanitary Inspectors and District Nurses did good service in having the defects remedied so far as was possible.

(a) Provision of Foods.

During the year special food substances were supplied to 79 patients and the total cost of this item for the financial year ended 15th May, 1925, was £635 17s. 2½d., as compared with an expenditure of £956 18s. 11d. for the preceding twelve months. The number of patients to whom special foods have been supplied has been reduced as it is very difficult to exercise such supervision as to ensure that the commodities are used only by the persons for whom they are intended.

The cost of the foods has not in any case exceeded 8s. 3d. per week and under no circumstances has the total amount expended on special foods and medicines exceeded 10s. per week; it is usual to allow a weekly margin of, say, 1s. 6d. for the provision of drugs.

(b) Provision of Shelters.

The Joint Committee possess 68 shelters, most of which were occupied continuously during the year.

Sixty-three shelters were occupied by domiciliary cases while 5 were placed in the grounds of tuberculosis hospitals in order to increase the accommodation.

Shelters are used mainly in rural districts. There are only three situated in the Burghs—in Ballater, Inverurie and Turriff. As a matter of fact shelters would be of much more service could they be used more extensively in the Burghs where overcrowding is comparatively more rife, but, whereas it is easy in rural areas to get sufficient space for erection and to place them in such positions that the patient will have some degree of privacy, such facilities are not as a rule present in the Burghs.

It is now our practice, wherever possible, to give shelters only to those cases who have had a course of institutional treatment as such patients from their institutional training have come to realise the necessity for fresh air and sunlight in the cure of tuberculosis. A badly ventilated shelter is worse than a small room with a fireplace, as in the latter natural ventilation is possible, whereas in the former, with windows and doors closed, there is practically no renewal of air.

In the following Table a list is given of the number of patients who occupied shelters during 1925, the period of occupancy, and the working capacity of the patients at the end of the year :—

Table XV.

Period of Occupancy.	Number of Patients.	Working Capacity.			Institutional Treatment.		Dead.
		Full-time	Part-time	None.	San.	Hospital.	
1—6 months	17	1	5	8	9	—	9
6 months—1 year . . .	9	2	6	4	6	1	—
1—2 years	11	4	3	4	7	2	3
2—3 years	10	2	7	2	7	1	—
3—4 years	7	1	2	3	5	1	2
4—6 years . . .	13	5	5	2	3	1	—
6—9 years	9	6	1	4	4	3	—
Over 9 years	7	3	2	1	3	—	—
Totals	83	24	31	28	44	9	15
Percentage	100	29	37	34	53	11	18

Of the 83 patients who occupied shelters during the year, 46 were males and 37 females. Seven patients had occupied their shelters for over 9 years, and four of the seven had actually occupied their shelters for more than 12 years. Of the 83, 53 had received treatment in institutions—44 in sanatorium and 9 in hospitals.

Several of the shelters are becoming rather dilapidated and 2 had to be disposed of during the year.

Of the 83 patients who occupied shelters, 15 also received grants for special foods.

(c) Provision of Drugs.

Since 1921, drugs have been supplied to tuberculous patients, whether insured under the National Insurance Acts or not, at the expense of the Local Authority when these drugs are considered to be necessary for the treatment of the tuberculous condition or for sequelæ arising from tuberculosis. The only restriction is that the names of the patients must appear on the Domiciliary Register of the Medical Officer of Health. Special prescription books were prepared and these are issued as required to the general practitioners. The prescriptions are sent monthly to be priced at the Central Checking Bureau in Glasgow. The following Table shows the number of prescriptions dispensed each month, the average cost per prescription and the total amount paid to the chemists. The total number of prescriptions in 1925 was 1619. The total cost of these was £215 14s. 2d. and the average cost per prescription 31·4d. The average cost per prescription was 32·5d. in 1924, 26·3d. in 1923 and 23·8d. in 1922.

Table XVI.

Month.	Number of Prescriptions.	Average Cost per Prescription.	Total Cost of Prescriptions.
January . . .	175	32·15d.	£23 8 10½
February . . .	146	34·43d.	20 18 11
March . . .	140	34·81d.	20 6 1½
April	147	40·09d.	24 11 1
May	131	28·01d.	15 5 9
June	168	26·63d.	18 12 11½
July			
August . . .	110	33·46d.	15 6 9
September . . .	123	36·89d.	18 18 1
October . . .	149	27·62d.	17 2 11½
November . . .	160	26·26d.	17 10 1
December . . .	170	33·36d.	23 12 7
Total . .	1,619	31·4d.	£215 14 2

Dispensary Treatment.

One hundred and ninety-five patients visited the Dispensary for purposes of examination, advice and treatment, and the total number of visits made was 446. Table XVII. gives the age and sex of the dispensary cases.

Table XVII.

Age and Sex of Dispensary Cases.

Age Group.	Male.	Female.	Total.
1- 5 years . .	4	1	5
6-10 „ . .	8	8	16
11-15 „ . .	13	16	29
16-25 „ . .	40	22	62
26-45 „ . .	47	25	72
46-65 „ . .	10	1	11
Totals . . .	122	73	195

The special lines of treatment adopted at the dispensary included treatment by autogenous vaccines, and, in cases of surgical tuberculosis, the inunction of Tuberculin Ointment—which is composed of one part of Koch's Old Tuberculin to four parts of anhydrous Lanoline. Tuberculin Ointment has been found to be specially successful in the treatment of enlarged glands; the ointment should be applied once a week over the swollen area, a portion the size of a small pea being gently rubbed in on each occasion.

Artificial Pneumothorax was not induced in any out-door patients.

There is a whole-time tuberculosis nurse attached to the Dispensary and her duties include attendance at the Dispensary on examination days, the visitation of patients in areas in which there are no District Nurses, and accompanying cases to and from institutions. The nurse was in attendance at the Dispensary on 69 sessions; she visited 64 individual cases and in all made 349 visits. She accompanied 66 patients on their admission to or discharge from tuberculosis institutions.

Special Methods of Treatment.

The methods of treatment employed in 1925, which call for special attention, are treatment by Artificial Light and by Remedial Exercises.

Artificial Light Treatment.

For a number of years the treatment of cases of tuberculosis by exposure to the sunlight (heliotherapy) has been practised, especially in Switzerland, where Dr. Rollier is the chief exponent. It was experimentally ascertained that exposure to the sun brought about remarkable recoveries in certain types of cases suffering from tuberculosis and it was later proved that the chief health-giving factor in this form of treatment was the ultra-violet portion of the solar spectrum.

The use of ultra-violet rays has now taken a very prominent place in the treatment of tuberculosis, especially in "surgical" tuberculosis, that is, tuberculosis affecting the glands, bones, joints, peritoneum and skin. The use of ultra-violet rays in tuberculosis, where the disease is primarily and mainly confined to the lungs, is not so definitely established, although, in these cases, intensive light treatment—both natural and artificial—is being used, but eminent observers have diametrically opposed views as to its efficacy.

Finsen of Copenhagen was the pioneer in the use of ultra-violet ray treatment. He began treating lupus by sunlight and realised that the ultra-violet rays contained in sunlight were the curative agent. The obvious drawback of the use of sunlight as a means of applying ultra-violet rays is of course that in these latitudes sunlight is comparatively seldom available. In addition, a dusty or smoke-laden atmosphere such as we get in cities cuts off a large amount of the ultra-violet rays available in sunlight. Finsen therefore devised an artificial means of producing ultra-violet rays by means of a special lamp called the Finsen Light. This was first installed in this country in the London Hospital in 1900. Since that date the use of ultra-violet rays has greatly increased. There is now a variety of lamps on the market for the production of these rays.

Nature of Ultra-Violet Rays.

Light consists of waves of energy transmitted through the ether. These waves differ in length, can be measured, and constitute a spectrum. The various waves are divided into groups known as octaves—an octave is a group of waves of which the length of the longest wave-length is double that of the shortest.

The unit of measurement used in connection with wave-lengths is the Angstrom Unit (A.U.) and is one ten-thousand-millionth of a metre.

Light which is visible to the human eye consists of an octave of from 4,000 A.U. at the violet end of the visible spectrum to 8,000 A.U. at the red end. There are waves beyond either end of the visible spectrum which are not ordinarily visible to the eye. Those beyond the violet end of the spectrum get increasingly shorter. The first set of waves beyond the violet end is the ultra-violet rays. Then come the waves known as the X-rays and beyond them are the gamma rays produced by radium. Beyond the other end of the visible spectrum are the infra-red rays; beyond them are the Hertzian waves, and then come the wireless rays, used in modern broad-casting.

Action of Ultra-Violet Rays.

When a patient is exposed to ultra-violet rays there is, as a rule, at first no apparent reaction, but after a latent period, varying with the individual and the intensity of the radiation, an erythema occurs which may vary from a faint blush to an intensive redness. This erythema is more marked in fair than in dark persons. With repeated exposure to radiation, this erythema is followed by a browning of the skin, giving a "sun-burned" effect. Some clinicians hold that this browning or pigmentation of the skin is an indication that the patient is reacting well to this form of treatment and that the absence of this pigmentation of the skin indicates that the same amount of benefit is not being derived from the treatment. Others, however—and these constitute the majority of observers—hold that absence of pigmentation has not this definite significance; in other words, the amount of benefit derived is not in direct proportion to the degree of pigmentation.

The erythema is due to the dilation of the blood vessels of the skin. The part exposed, therefore, to the radiation gets an improved blood supply. Dr. Leonard Hill in his experiments has proved that the ultra-violet rays increase the natural power that the blood has of destroying disease-producing bacteria. Sonne holds that the visible light rays are absorbed by the blood corpuscles and converted into heat and that the immunising power of the blood is thereby increased.

The most penetrating ultra-violet rays are those about 3,000 A.U. These rays penetrate the deep epidermic cells and probably have the greatest therapeutic effect.

It is of interest to note that when the health of the patient is below normal, great benefit can be derived from the use of ultra-violet rays, but that in normal healthy individuals, no improvement above their "normal" is to be got from this form of treatment.

SOURCES OF ULTRA-VIOLET RAYS.

There are two main types of lamps employed in the production of ultra-violet rays :—

(1) The Electric Arc Lamp.
(2) The Mercury Vapour Lamp.

(1) *Electric Arc Lamps.*—These lamps are mainly of two kinds :—

(*a*) Lamps where the electrodes consist of carbon.
(*b*) Lamps where the electrodes are of carbon mixed with or cored with tungsten or other metals. These lamps are of the open variety.

(2) *Mercury Vapour Lamps.*—These consist essentially of a quartz-tube containing mercury. Quartz is used as ultra-violet rays cannot penetrate glass. The mercury must be divided into two to break the continuity and thus make the arc. These mercury lamps are either air-cooled or water-cooled. The mercury vapour lamp is more economical, using less current than the open arc lamp.

METHOD OF ADMINISTRATION OF ULTRA-VIOLET RAYS.

This method of treatment cannot be employed in all cases. Cases require to be selected very carefully. It does comparatively little good in cases with a definite pulmonary lesion, but, in those suffering from non-pulmonary or surgical tuberculosis, very good results have been obtained.

Either local or general irradiation may be used. General irradiation is the method that is most generally practised. Very much the same system of application is used in general irradiation as in Rollier's method of applying Heliotherapy.

Only a small part of the patient's body is exposed at first. The area exposed and the time of exposure are both increased until the whole body is exposed for the maximum period. The patient wears a loin-cloth and must use protective glasses as neglect of this precaution gives rise to severe conjunctivitis. It is necessary, in order to get full benefit from ultra-violet irradition, that the room in which the lamps are installed should be fully and freely ventilated.

Ultra-violet ray treatment is not confined to tuberculosis but has a wide application, especially among children. Children suffering from "wasting diseases," mal-nutrition, debility, rickets, &c., benefit immensely from a regular course of ultra-violet ray therapy. In one tuberculous case, the application of this form of treatment brought about a complete cure of chronic and widespread acne in less than a month.

ULTRA-VIOLET RAY TREATMENT AVAILABLE UNDER THE COUNTY TUBERCULOSIS SCHEME.

Special lamps giving forth ultra-violet radiation have been in use for some time at Tor-na-Dee Sanatorium, Murtle, which is one of the pioneer institutions in this country in this type of treatment. Quite recently a Tungsten Arc Lamp was installed at Newhills Sanatorium, where good results have certainly been obtained in the treatment of surgical cases. After a little experience a nurse can manipulate the lamps quite well, and the time is not far distant when every tuberculosis institution, especially those dealing with the surgical type of the disease, will have means of treating patients by Artificial Light.

Ultra-violet ray treatment is now available for patients from the County of Aberdeen, at the following institutions :—

(1) Newhills Sanatorium, Bucksburn.
(2) Tor-na-Dee Sanatorium, Murtle.
(3) Bridge of Weir Sanatorium, Renfrewshire.
(4) City Hospital, Aberdeen.

EXAMPLES OF CASES BENEFITED BY ULTRA-VIOLET RAY TREATMENT.

The following cases are examples of some patients in the County of Aberdeen suffering from tuberculosis, who have derived benefit from a course of ultra-violet ray treatment :—

(1) *Miss Y., aet. 72.*—This patient's foot was affected with tuberculosis about ten years ago, and gradually became worse in spite of treatment. Abscesses formed, leaving discharging sinuses and the foot was much swollen. Amputation was advised but to this the patient would not agree. Ultra-violet ray treatment became available, and after the commencement of the course, almost immediate improvement became noticeable. The foot is now very much less swollen, the discharging tuberculous sinuses are healing up satisfactorily and the prospect of a permanent arrest of the disease is good.

(2) *H. L. (male), aet. 26.*—This was a case of Spinal Caries (tuberculous disease of the spine). On admission to the institution, he was unable to rise from his bed. Ultra-violet ray treatment was begun on 22nd May, 1924, with an initial exposure of five minutes thrice weekly and an ultimate exposure of one hour thrice weekly. Definite improvement, both generally and at the site of the lesion, began after the commencement of the ultra-violet ray treatment, and the patient was discharged on 27th November, 1925, able to walk about with the support of a poro-plastic jacket.

(3) *A. D. (male), aet. 14.*—This boy was admitted to a sanatorium on 17th March, 1925, suffering from tuberculous adenitis (tuberculous disease of the lymphatic glands). There were discharging sinuses on the arms, legs and trunk. The weight on admission was 6 st. 1 lb. He had previous treatment of a surgical nature, but with little benefit. He was given ultra-violet ray treatment beginning with a five minutes exposure thrice weekly increasing to a maximum dose of one hour thrice weekly. All the sinuses healed up and the enlarged glands disappeared. On discharge his weight was 8 st. 4 lb.

(4) *J. H. C. (female), aet. 13.*—The patient was admitted to a sanatorium on 19th June, 1925, suffering from abdominal tuberculosis. She was very emaciated and ill-looking, with a temperature on admission of 101° F.; diarrhœa was a prominent symptom. The weight on admission was 5 st. ½ lb. Ultra-violet ray treatment was commenced with an exposure of five minutes thrice weekly, increasing to a maximum dose of forty-five minutes thrice weekly. There had been little or no improvement in her condition prior to the commencement of ultra-violet ray treatment, but, after this treatment

was commenced, there was an almost dramatic improvement and the patient was discharged from the Sanatorium on 29th January, 1926, having apparently made a complete recovery.

Remedial Exercises.

For a long time it has been realised that the ordinary routine treatment of cases of tuberculosis, which consisted mostly of plenty of fresh air, sunlight, rest and good food, had fallen much short of the ideal. No doubt, "graduated exercises" as practised in some institutions had helped to some extent, but it was found to be of use only if carried out under the strictest medical supervision. There are, however, cases in whom sanatorium treatment, even if accompanied by graduated exercises, leaves the patient "soft" and incapable of engaging in ordinary remunerative work, and one of the main functions of sanatorium treatment in such a scheme as ours which deals almost entirely with the working classes is to enable the sufferers to regain their working capacity. What one might term a post-institutional inertia was especially noticeable in the case of tuberculous children.

Recognising this deficiency in the Tuberculosis Services, I brought forward a Scheme in the end of 1923, whereby a Remedial Expert and Masseuse should be appointed, at first by way of experiment, in order to assist in the treatment of tuberculous cases, whether children or adults, and whether suffering from pulmonary or from non-pulmonary tuberculosis. The Remedial Expert was appointed for a preliminary period of six months, and, in July, 1924, a memorandum on the subject was submitted to the County Council and a suggestion was made that, as the experiment had proved entirely satisfactory, the employment of Remedial Exercises should form a permanent part of the County Tuberculosis Scheme. Both the County Council and the Scottish Board of Health approved of this suggestion, and, in this County, we now have a system of Remedial Exercises given to patients while they are being treated in institutions and also to selected patients undergoing home treatment.

For the information of the Committee, the memorandum referred to above is here reproduced in full:—

Memorandum on the Relation of Remedial Exercises and Massage to the Treatment of Tuberculosis.

Some years prior to the outbreak of the War, Marcus Paterson published the results of a special form of treatment carried out by him at Frimley Sanatorium. This treatment consisted of prescribing for tuberculous patients labour graduated according to their physical ability, and the method employed by him was termed "Auto-inoculation." Previous to this, Wright has shown that bacterial organisms flourish in foci of bacteriotrophic pressure. Paterson, working on these lines, showed that auto-inoculations might follow upon or be induced by active or passive movements which affect the focus of infection. It is through the agency of these auto-inoculations that the protective mechanism of the blood is set in motion, so that, when bacterial products escape from localised foci into the circulation, intoxication phenomena and immunising responses necessarily result.

In actual practice, patients undergoing treatment of this kind are given a preliminary course of walking exercises, followed by graduated work. The work is divided into six grades, so that the highest grade constitutes the hardest manual work, and this should be reached without the occurrence of headache, increase of sputum, or elevation of temperature, which triad of signs constitute danger signals in this method of treatment. In practically all sanatoria, graduated work is vaunted as a form of treatment. When we come to look into the so-called graduated work or exercise, we see that there is really no scientific grading attempted, there is no selection of patients, and, further, there is no attempt to discriminate between exercises necessary for, say, limbs which are merely atrophied from disuse, and organically diseased parts of the body which must be carefully helped to re-function so far as is possible. Another criticism, I think, may be quite legitimately made, namely, that the patients are simply handed over to a layman, generally a foreman labourer, to exercise, and to him is left the determining of the type and extent of exercise to be given. His only criterion of capacity for work is the general appearance of the patient. In no disease, of course, are appearances more deceptive. A man may appear with a florid complexion and show all evidence of robust health, and have an active tuberculous lesion present. This is a clinical fact that requires no elaboration.

The principle of auto-inoculation is undoubtedly good, but something more is needed, and, in my opinion, this can only be supplied by systematic courses of remedial exercises. There is a clamant need for physical therapeutic work in connection with the treatment of phthisis. Patients who leave a sanatorium have certainly had inculcated into them the necessary sanatorium regime, but they have not been taught how to walk, how to expand the chest, or how to breathe properly. By means of remedial exercises, patients are instructed how to use their lungs and their muscles to the best advantage, and the physical betterment which ensues from such treatment gives an added zest to life.

> (1) *Physical Condition.*—When he leaves the sanatorium, he is "soft," his muscles are flabby, and, if he has been accustomed to hard manual work, his joints are not so supple as they used to be.
>
> (2) *Mental Condition.*—In this connection, I think, we must bear in mind that tuberculosis is essentially a social as well as a medical problem. It follows, therefore, that the outlook of those afflicted with tuberculosis is of great importance to the population generally and to the dependants and relatives of the afflicted in particular. It is commonly supposed that a tuberculous patient has an inherent belief that his disease is going to be speedily eradicated, and that he himself will be cured. The spes phthisica theory has been handed down in text book after text book from time immemorial. When we come to deal with actual facts, no such spes exists; if it does, it is a pure self-imparted delusion on the part of the patient. No one, moreover, will, at this stage of medical knowledge, question the effect of a mental state on a bodily condition. All recent research shows that the two are intertwined in the most complex manner, and that, unless the will to live be present, the outlook is a very gloomy one.
>
> What mental state, then, is exhibited by those patients who have had, or are undergoing, sanatorium treatment? With few exceptions, they are inordinately introspective, with an introspection fostered by the fact that many are gathered together suffering from the same disease, although in different stages and showing different symptoms. All the facilities for powerful auto-suggestion are present. They are exceedingly lethargic; the will to energise is completely in abeyance. They lack all power of mental or physical concentration.

If remedial exercises are adopted, the results which may confidently be looked for are as follows :—

(1) *Physical Results*—

(*a*) *Muscular*.—The essence of muscular action does not lie in large muscles, but in the proper co-ordination of muscles and nerves. By a proper course of remedial exercises and massage, the muscles are toned up, and this improvement in the muscular tone naturally reacts on all the other systems of the body, which are more or less interlaced.

(*b*) *Circulatory*.—The circulatory system would also benefit. The heart is, after all, a muscular organ, and requires exercising to keep it in condition, just as every other muscle does. Moreover, the mainspring of a well-established circulation consists primarily in the heart having the capability of responding to effort. It cannot do so in the case of a person who has lain for weeks in a shelter and then done a little walking. That this response to effort is something to cultivate and not necessarily an inherent part of the heart mechanism, is, I think, proved by those who organised the system of physical exercises in the case of recruits, After a course, the capacity for work became enormously increased, and the whole muscular system of the body became supplied with a richer blood. During the War, it was found that the giving of carefully graduated exercises was a most integral part of the treatment of convalescents recovering from acute and chronic illnesses in hospitals. This was a most interesting development throughout the Egyptian Expeditionary Force, largely due to the energy and initiative of Dr. Deaver, and it gained the warm appreciation of the Duke of Connaught and Lord Allenby.

(*c*) *Respiratory*.—Obviously the lungs would benefit most of all by the scientific practice of this procedure. The expansion of the lungs is largely a muscular action, influenced by the intercostal muscles and the diaphragm. Unfortunately, in pulmonary tuberculosis, the natural process of arrest is one accompanied by extensive fibrotic changes, resulting in a much diminished air capacity. This is seen almost daily when a reputedly cured phthisis patient is examined. Whenever he is told to take any exertion, dyspnœa becomes prominent, and although the disease is quiescent, his working capacity is nil. It is surely, therefore, of the most supreme importance that a proper method of breathing—using every available air-space and using to the very best advantage all the respiratory muscles—should be taught. Its teaching is an intensively scientific problem, and it is here that I would again specially join issue with those who prescribe work in a perfunctory manner and who never give any opinion as to the method of doing it.

(*d*) *Locomotory*.—It is unnecessary to elaborate the effect on the locomotory system generally. On leaving the sanatorium, there is hardly one group of muscles connected with joints which is in proper tone. In pulmonary cases, the joints are stiff, the muscles and tendons which move them are atonic and probably the seat of muscular fibrositis. In surgical joint cases, of course, apart from the joint specifically affected, all the joints in the vicinity have simply been unused for months. Considering the new method of looking at fractures, and the importance of constant and early movement above and below the site, and knowing how shortened the convalescence by this method of treatment can be made, it is obvious that, to subject non-affected joints in a tuberculous joint patient to no treatment whatever, will result possibly in a cured tuberculous joint but in considerably impaired neighbouring joints.

(2) *Mental Results.*—One of the great mental results of remedial exercises is that it tends to make patients less lethargic and more capable of mental and physical concentration. Remedial exercises would remove that abolition of mental power to energise which so often accompanies institutional treatment. The adoption of remedial exercises would stimulate the mental abeyance, would quicken the wish to get better, and the will to work, and the atmosphere of the sanatorium would be pervaded by a spirit of alacrity and optimism.

Results of Experimental Treatment on Lines above Indicated.

During the past six months, a number of patients have been treated by remedial exercises and massage at the following institutions :—

(1) Burgh Hospital, Peterhead.
(2) Thomas Walker Hospital, Fraserburgh.
(3) Newhills Sanatorium, Bucksburn.
(4) County Tuberculosis Dispensary, Aberdeen.

The pulmonary cases selected have been chiefly children suffering from a condition of chronic enlargement of the glands within the chest, technically known as intra-thoracic adenitis. The surgical cases selected were those suffering from tuberculous conditions of bones and joints with no evidence of an active focus; this type of case naturally makes rapid improvement, as massage and passive movements are essential parts of the treatment.

The cases suffering from intra-thoracic adenitis and from pulmonary conditions which may be described as quiescent are naturally more difficult in that there is not evident at once the almost dramatic improvement which occurs in the joint cases. Progress is not so readily noted, but I am certain, and my experience bears out the contention, that the treatment will shorten the long expensive period of institutional residence and thereby materially diminish expense and indirectly increase the available institutional accommodation.

From the data available, it is obvious that there is an appreciable physical improvement in all cases. All the patients have been carefully examined, and the air entry into the lungs has been found to be much improved. In no case has the giving of remedial exercises, even when their application seemed to be justified in the most intensive form, increased the sputum, caused headache, or led to any elevation of temperature. It is common knowledge that in the ordinary method of exercise, as carried out in sanatorium treatment, there occurs constantly a necessary interruption due to the development of one or more of those symptoms which are indicative of a distinct recrudescence of the disease.

Conclusions and Recommendations.

In my opinion, remedial exercises are quite as important a part of the treatment of tuberculosis as is the giving of graduated exercises. As a matter of fact, the one is the complement of the other, and I would strongly urge the Council, in view of the successful issue of this six months' experiment, to appoint an expert in remedial exercises and massage, and, by making this appointment permanent, to ensure that this treatment forms an integral part of our County Scheme.

For the proper administration of these exercises, however, I would again stress the point that it is only under the most careful medical supervision and at the hands of an expert—that is, a person who has been trained thoroughly in remedial, electrical, and massage work, and who has, moreover, a working knowledge of anatomy and physiology—that one can hope to have successful results. Any qualifications short of these may have the effect of bringing the treatment into disrepute.

The investigations so far carried out, in the limited time and with the limited scope at my disposal, have, of course, only been partially scientific, but, if the Scheme were put on a permanent basis, such investigations as the testing of pulmonary capacity, the testing of muscular power and response and also, if possible, a careful estimation on selected cases of the basal metabolic rate would, I am sure, give most interesting and important results, confirmatory of my premises.

In the near future, it may be possible for us to obtain a definite number of beds in Linn Moor Convalescent Home, near Culter, where children suffering from intra-thoracic adenitis or non-infectious pulmonary tuberculosis or children whose condition would warrant a suspicion of a pre-tuberculous state, can be maintained and treated at economic rates, and thus relieve some of our institutional beds for which the Council are meantime paying 30s. to 49s. per week. Patients could be accommodated at Linn Moor at a comparatively small cost, certainly under 15s. per week each, and, if this Scheme meets with your approval, I would suggest that the Remedial Expert should visit this institution at least twice weekly.

The system of treatment of certain tuberculous cases by remedial exercises has now been in vogue in this County for over two years and has been followed by excellent results. The Remedial Expert visits the Thomas Walker Hospital, Fraserburgh, and the Tuberculosis Annexe, Peterhead, once weekly; she visits Linn Moor Convalescent Home twice weekly, and, on two other sessions deals with patients at the Dispensary, 16, Golden Square, Aberdeen. The exercises are carried out under strict medical supervision, so that no patient receives more vigorous exercise or massage than what he or she is found medically to be able to tolerate.

At the Dispensary, the patients are treated individually but at the Hospitals they are, with a few exceptions, treated in groups.

In all, 92 patients are treated as follows:—

Linn Moor Convalescent Home, Culter . .	40	patients.
Thomas Walker Hospital, Fraserburgh . .	19	,,
Tuberculosis Annexe, Peterhead . . .	11	,,
County Tuberculosis Dispensary . . .	17	,,
Total . .	87	,,

Five patients received treatment in their homes, because of their physical inability to travel to any of the centres.

The four following cases are illustrative of the benefit accruing from this form of treatment :—

(1) *A. A. (female), aet. 21.*—This patient suffered from Asthma, and examination of the lungs showed the presence of extensive pulmonary fibrosis. The course of treatment commenced on 17th October, 1924, and is still being continued. Once weekly, she is. instructed in special chest-developing exercises, and she also receives special exercises for the muscles of the abdomen and limbs. During 1925, she gained 19 lbs. in weight; her ordinary chest measurement increased by 1 inch whilst the respiratory capacity had increased by $\frac{3}{4}$ inch; her general condition improved considerably; the asthmatic attacks which used to be frequent have been absent for the past nine months, and she is now only occasionally troubled with slight breathlessness on exertion. This patient received a course of treatment by autogenous vaccine simultaneously with the treatment by remedial exercises.

(2) *J. M. (female), aet. 21.*—In this case the patient suffered from pulmonary tuberculosis which had become quiescent, but, probably from pressure of tuberculous glands, she lost the power of her right arm which began to show muscle wasting. She had 51 applications of massage administered twice weekly and on completion of treatment she had regained the power of her arm and hand.

(3) *B. M. (female), aet. 14.*—This girl suffered from incipient phthisis and torticollis. She had 30 courses of treatment. Her weight increased by $6\frac{1}{2}$ lbs.; her chest expansion—on deep inspiration—was increased by 1 inch. The neck deformity was very much improved.

(4) *M. L. (female), aet. 7.*—This child suffered from intrathoracic adenitis, and, at the commencement of treatment, was very weakly and could not walk erect. She received individual instruction in remedial exercises once every week, and by the end of 1925, she had gained 7 lbs. in weight; her chest expansion had increased by $1\frac{1}{2}$ inches and her general condition showed considerable improvement.

SUMMARY, 1914-1925.

Number of notifications—	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.	1923.	1924.	**1925.**
(1) All forms of Tuberculosis,	231	342	393	299	314	342	367	353	368	381	375	**375**
(2) Phthisis Pulmonalis, .	191	267	259	210	235	242	266	263	244	236	213	**227**
Number of deaths from—												
(1) All forms of Tuberculosis,	141	163	154	135	164	130	137	153	129	142	138	**144**
(2) Phthisis Pulmonalis, .	87	115	114	94	117	96	103	105	96	111	101	**112**
Number of new cases treated in—												
(1) Sanatoria, . . .	48	80	106	59	88	109	104	110	114	101	90	**96**
(2) Hospitals, . . .	42	92	88	49	63	45	52	49	56	57	123	**95**
Average duration of institutional treatment,	157 days	134 days	144 days	131 days	155 days	169 days	162 days	180 days	225 days	165 days	196 days	**225 days**
Bacteriological work—												
(1) Number of samples of sputum examined, .	354	350	268	216	176	218	501	521	509	475	531	**536**
(2) Number of miscellaneous materials examined, .	—	—	—	—	—	—	42	48	70	49	65	**69**
(3) Number of vaccines prepared, ...	—	—	—	—	—	—	33	53	47	91	66	**69**
Number of County shelters, .	42	54	59	59	59	61	61	62	65	65	65	**68**
Number of house and shelter disinfections by Sanitary Inspectors, ...	84	191	131	62	69	93	97	104	89	81	73	**70**

SECTION III.

Maternity and Child Welfare Services.

MATERNITY AND CHILD WELFARE SERVICES.

The area embraced by this Scheme includes all the districts of the County and the Burghs, with the exception of Fraserburgh, Peterhead and Huntly which have maternity schemes of their own. The Burgh of Huntly, however, came into the combination on 15th January, 1926.

Births.

The number of births registered during 1925 was 2,645 and of these 2,250 were legitimate and 395 illegitimate. The following Table shows the total number of births, the number of legitimate and illegitimate births and the birth-rate for each area :—

TABLE I.

AREA.	Population.	BIRTHS.			Birth Rate.	Illegitimate Birth Rate.
		Total.	Legitimate.	Illegitimate.		
DISTRICTS—						
Deer	26,166	579	503	76	22·1	13·1
Ellon	12,839	320	270	50	24·9	15·6
Garioch	11,911	300	249	51	25·2	17·0
Deeside	11,751	208	174	34	17·7	16·3
Turriff	10,244	250	196	54	24·4	21·6
Aberdeen	22,330	412	357	55	18·5	13·3
Alford	8,194	184	160	24	22·5	13·0
Huntly	6,103	160	134	26	26·2	16·3
BURGHS—						
Ballater	1,630	16	16	—	9·8	—
Ellon	1,221	31	29	2	25·4	6·5
Inverurie	3,501	88	82	6	20·2	6·8
Kintore	4,347	16	13	3	22·9	18·8
Oldmeldrum	960	15	12	3	15·6	20·0
Rosehearty	1,229	24	19	5	19·5	20·8
Turriff	2,039	42	36	6	20·6	14·3
Totals	124,465	2,645	2,250	395	21·2	14·9

The notification of births was provided for by the Notification of Births Act, 1907, which was, however, only an adoptive Act. Later there was passed the Notification of Births (Extension) Act, 1915, whereby the notification of births became obligatory throughout Scotland and powers were given to Local Authorities to formulate Schemes for the care of expectant mothers and the supervision and treatment of children from birth until the age of 5 years.

The number of births notified in the area was 1,905 which represents 72 per cent. of the total births. Of the cases notified, 28 were attended by midwives and the remainder by doctors.

The total number of still-births recorded was 53.

Infantile Mortality.

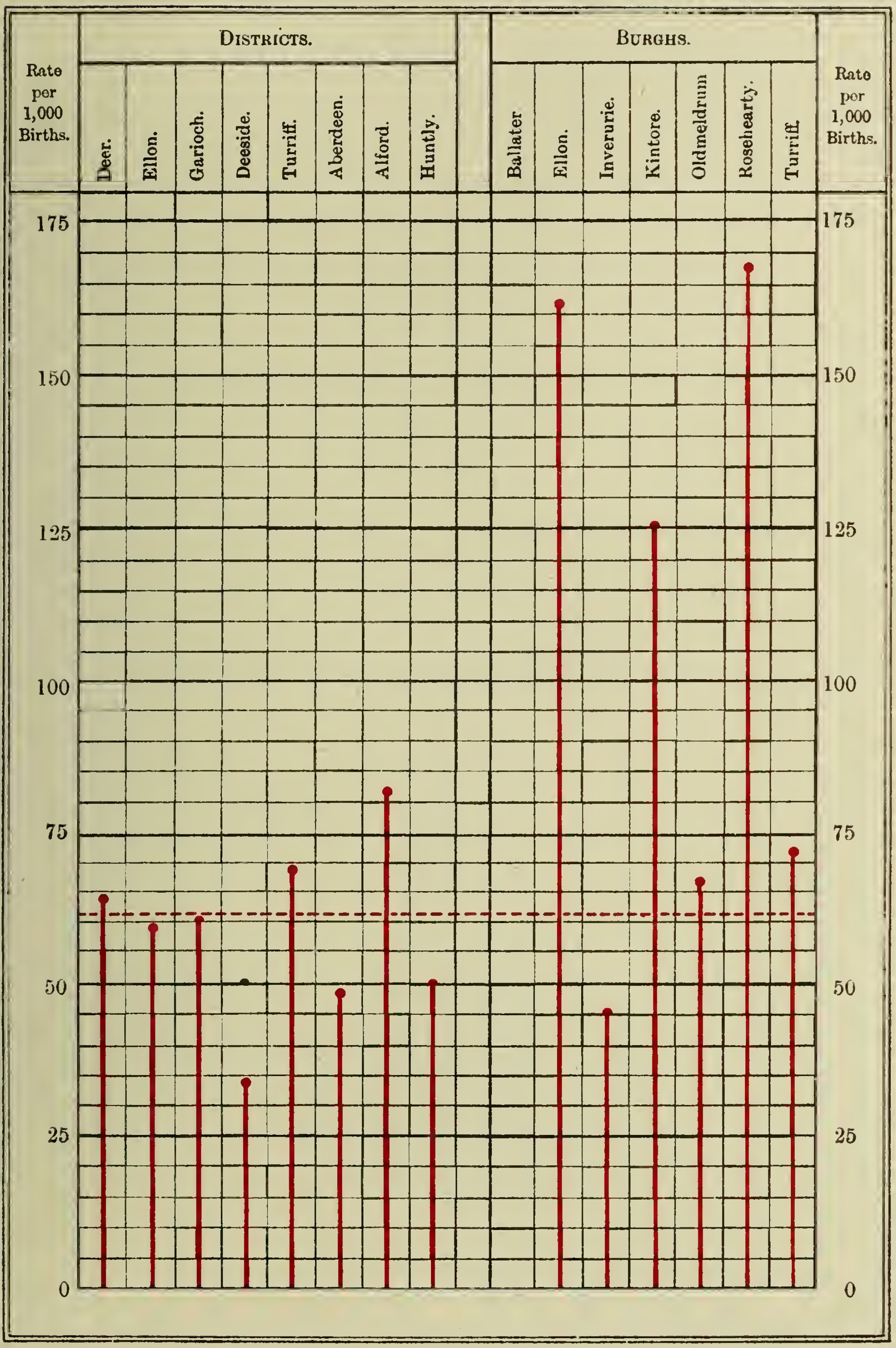
The Infantile Mortality, or number of deaths of children under one year of age, in the area under review was 160. The rate of infantile mortality indicates the number of deaths to 1,000 registered births and this amounted to 60·5, as compared with 71·7 in 1924, 74·9 in 1923 and 84·4 in 1921.

In the accompanying Table are shown the number of deaths in each district and burgh and the corresponding rate of infantile mortality.

TABLE II.

	Number of Deaths Under 1 Year.	Infantile Mortality Rate.
DISTRICTS—		
Deer	37	64
Ellon	19	59
Garioch	18	60
Deeside	7	34
Turriff	17	68
Aberdeen	20	49
Alford	15	82
Huntly	8	50
BURGHS—		
Ballater	—	—
Ellon	5	161
Inverurie	4	45
Kintore	2	125
Oldmeldrum	1	67
Rosehearty	4	167
Turriff	3	71
Totals	160	60·5

CHART G.



------------Rate of Infantile Mortality for whole area=60·5.

The causes of death amongst children under one year of age are given in Table III.

TABLE III.

Causes of Death.	Districts.								Burghs.							Total.
	Deer.	Ellon.	Garioch.	Deeside.	Turriff.	Aberdeen.	Alford.	Huntly.	Ballater.	Ellon.	Inverurie.	Kintore.	Oldmeldrum.	Rosehearty.	Turriff.	
Measles	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	1
Whooping Cough	1	1	—	—	1	—	1	—	—	—	—	—	—	—	—	4
Diphtheria	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	1
Other Epidemic Diseases	—	—	1	—	—	1	—	—	—	—	—	—	—	—	—	2
Tuberculous Meningitis	—	—	—	—	—	1	—	—	—	—	1	—	—	—	—	2
Tuberculosis of Intestines and Peritoneum . . .	—	—	1	1	—	—	—	—	—	—	—	—	—	—	—	2
Meningitis (neither Cerebro-spinal nor Tuberculous) .	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	1
Bronchitis	2	2	1	1	1	—	1	—	—	1	—	—	—	—	—	9
Pneumonia (all forms)	5	1	3	—	2	2	1	1	—	—	—	1	—	—	—	16
Other Diseases of Respiratory System	—	—	—	—	—	—	1	—	—	1	—	—	—	—	—	2
Diarrhœa and Enteritis	3	2	2	—	1	4	—	1	—	—	—	—	—	—	1	14
Nephritis, Acute and Chronic	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Diseases of early Infancy and Malformations . .	17	12	6	2	4	6	8	6	—	3	3	1	1	4	1	74
Violent Deaths	2	—	1	—	1	1	—	—	—	—	—	—	—	—	—	5
Other defined diseases	5	—	1	2	6	4	1	—	—	—	—	—	—	—	1	20
Causes ill-defined or unknown	2	—	1	—	1	—	2	—	—	—	—	—	—	—	—	6
Totals	37	19	18	7	17	20	15	8	—	5	4	2	1	4	3	160

Chart G shows the rate of Infantile Mortality in the several districts and burghs as compared with the rate prevailing over the whole area.

Maternal Mortality.

Ten cases of Puerperal Sepsis were notified and of these 4 died.

Seven cases were treated in special wards of the Aberdeen City Hospital, and of these two died whilst the remaining five recovered.

With regard to Puerperal Fever, arrangements have been made with the City Authorities for the reception of cases suffering from this disease in the City Hospital. The procedure is for the family doctor to communicate with the Medical Officer of Health who makes arrangements for the immediate transference of the patient to Hospital by ambulance. It may here be allowable to re-iterate the definition of Puerperal Fever.

> "Puerperal Fever is pyrexia with systemic disturbance due to the absorption of bacteria or other toxins, arising from infection of the genital tract during the puerperium, and is communicable to other puerperal women by indirect infection, by appliances, by the nurse or by others in attendance. The incubation period varies from a few hours to five weeks, the majority of cases having an onset in the first week."

The British Medical Association, however, include in the term "Puerperal Morbidity" all conditions in which the temperature reaches a height of 100° F. on two occasions from the end of the first to the end of the eighth day after delivery.

Midwives (Scotland) Act, 1915.

In accordance with the requirements of the Midwives (Scotland) Act, 1915, six women who were registered as midwives gave notice to the Supervising Authority—which is the Joint Committee for Public Health Services—of their intention to practise. In no case during the year did a midwife call in a medical practitioner, and thus no payments were made by the Supervising Authority for medical assistance to midwives. No complaints were lodged against these midwives and no cases either of ophthalmia neonatorum or of puerperal sepsis were reported to have occurred in their practice.

Provision of Foods.

There were 16 applications for food and milk for children and 4 for nursing mothers. The foods are given for a period of one month at a time, but on application again being made the period may be extended if the necessitous circumstances remain as at the time of the original application. The same standard of necessitousness is adopted in the case of applicants for nourishment as in previous years, namely, a total weekly income not exceeding 10s. for each parent and 7s. 6d. for each child.

The foods supplied during the year, in addition to milk, included Virol, Glaxo and Allenbury's Foods, Nos. 1 and 2.

The total cost of the special foods and milk amounted to £41 8s. 7½d., as compared with £38 5s. last year.

Measles and Whooping Cough.

No definite arrangements have been made for the treatment of Measles and Whooping Cough, but under the Pneumonia Scheme, which is later given in detail, provision has been made for the treatment of pneumonia complicating these diseases.

In the area under consideration the number of deaths amongst children up to five years of age attributable to Measles and Whooping Cough was 20. The notification of these diseases is not compulsory and it is therefore impossible to give any definite idea as to their annual incidence. The usual complicating causes of death in these diseases are broncho-pneumonia, bronchitis and convulsions.

Ophthalmia Neonatorum.

Ophthalmia Neonatorum was defined by the Scottish Board of Health in their Regulations of July, 1918, as "any inflammation that occurs in the eyes of an infant within 21 days of birth, and is accompanied by a discharge."

The number of cases notified during the year was 11, and of these 10 were notified by general practitioners and 1 by the Resident Medical Officer of Oldmill Hospital. In 1924 the number of notifications was 18, in 1923—18 and in 1922—15.

According to the information received, the interval in days between the birth and the onset of the disease was as follows:—

Table IV.

Days . . .	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	No Particulars.	Total.
Cases . . .	—	3	1	—	1	—	—	—	—	2	1	1	—	1	—	—	—	—	1	11

The geographical distribution of the cases is shown below:—

Districts.		Burghs.	
Deer . . .	2	Ballater . . .	—
Ellon . . .	1	Ellon . . .	—
Garioch . . .	—	Inverurie . .	—
Deeside . . .	—	Kintore . . .	2
Turriff . . .	2	Oldmeldrum . .	—
Aberdeen . .	1	Rosehearty . .	—
Alford . . .	1	Turriff . . .	—
Huntly . . .	2		

In Table V. there appear the number of cases notified, the number treated at home and in institutions and the ultimate results.

Table V.

Cases.			Vision Unimpaired.	Vision Impaired.	Total Blindness.	Deaths.
Notified.	Treated					
	At Home.	Institutionally.				
11	9	2	10	—	—	1
100 %	81·8 %	18·2 %	90·9 %	—	—	9·1 %

Cases suffering from Ophthalmia Neonatorum were at first treated in a special shelter at the Joint Infectious Diseases Hospital, Inverurie, but, on account of the difficulty of obtaining the services of an Ophthalmic Specialist, it was considered advisable to make arrangements whereby cases could be admitted —along with the mother, if possible—to a more central institution, namely, the Aberdeen City Hospital. When cases are sent to this Hospital, arrangements are also made for the mother to be admitted, as it is considered inadvisable for a child of a few days old to be separated from the mother. The weekly charge is 45s. 6d., and, in the case of an Ophthalmic Specialist being called in, a fee of £2 2s. per consultation is charged.

The importance of prompt and vigorous attention to cases of Ophthalmia Neonatorum has been brought to the notice of practitioners from time to time. The following is a circular letter which was sent to the practitioners on the subject:—

> "Cases of ophthalmia neonatorum will now be treated in the Aberdeen City Hospital—at the expense of the Joint Committee for Public Health Services—and the services of one of the Ophthalmic Surgeons will be made available in such cases as may be deemed necessary by the Medical Superintendent of the Hospital. Provision has also been made for the accommodation of the mother in the City Hospital, Aberdeen. As you are aware, it is often very important that the mother should also receive institutional treatment, as she herself may require active treatment and as it has been found to be deleterious to the health of the child to remove it from the mother when it is only a few days old. I shall be glad to make all arrangements for the institutional treatment of cases immediately on hearing from you of their occurrence. For your information, I enclose excerpts from a circular, of date 16th July, 1921, issued by the Board of Health, on the prevention of ophthalmia neonatorum. These excerpts are being sent to you with the concurrence of the Board whose present views they reflect."

Excerpts from Circular Letter issued to Local Authorities by the Scottish Board of Health, of date 16th July, 1921.

> 1. Every year, in Scotland, there occurs a number of cases of ophthalmia neonatorum (purulent conjunctivitis in infants during the first weeks of life) of such severity that vision is either lost or so greatly injured as seriously to impair future industrial efficiency.
>
> 2. In the great majority of such severe cases of ophthalmia neonatorum the condition is caused by gonococcal infection.
>
> 3. Ophthalmia neonatorum is a preventable disease. It is at least certain that, if simple precautions are taken, cases of severe degree will seldom, if ever, occur.
>
> 4. The necessary precautions consist in cleansing the eyes of every child immediately after birth by means of swabs of soft linen or absorbent (non-medicated) cotton wool (which should be used once and burnt thereafter); and then, after separating the eyelids gently, dropping within the opening of the lids one or two drops of 1 per cent. solution of silver nitrate. Care must be taken that the solution is of the proper strength. The use of a stronger solution as a preventive is unnecessary.
>
> 5. In view of the above-mentioned grave injury to vision, of the difficulty in determining whether the mother be infective or not, and of the fact that the instillation of 1 per cent. solution of silver nitrate is harmless, the Scottish Board of Health recommend that the eyes of the newly born be so treated in all cases.

6. The Board are strongly of opinion that precautionary measures should be taken by medical practitioners and midwives alike.

7. Should there occur conjunctival discharge, however slight, in the case of an infant attended by a midwife, her duty to invoke immediate medical assistance is not lessened by the fact that she has carried out the prescribed measures.

8. Only in very exceptional circumstances is it possible to treat cases of ophthalmia neonatorum of any severity in the patient's home. All such cases, therefore, unless of the mildest type, should be removed to hospital, without any delay, if hospital accommodation is available. If possible, the mother should accompany the child.

Epidemic Diarrhœa.

No provision has been made for the treatment of cases of Epidemic Diarrhœa. Fourteen deaths occurred amongst children under one year of age from Diarrhœa and Enteritis.

Provision for Sick Children.

Cases of sick children under 5 years of age are admitted to the Sick Children's Hospital but, as the Joint Committee has no jurisdiction over this institution it meantime exercises no control over the admission and discharge of patients. Children suffering from mal-nutrition may be admitted between the ages of 3 and 5 years to Linn Moor Convalescent Home, Culter.

Work of the District Nurses.

Table VI. shows the relative amount of time spent by the District Nurses under the Scheme. The services of trained nurses form the basis of any efficient scheme dealing with Mother and Child Welfare. The scope of their work is more fully dealt with elsewhere.

Table VI.

	All Services.	Maternity Work.	Tuberculosis Work.	School Work.	Work other than under Three Schemes.
Number of Hours on Duty .	76,561¼	23,011½	2.893¾	5,082½	45.573½
Percentages	100	30·1	3·8	6·6	59·5
Corresponding Percentages for 1924	100	26·2	6·3	6·3	61·2

Home-Helps.

During 1925, one "home-help" was supplied at the expense of the Joint Committee to a farm servant who had six children and whose wife had to be removed to an asylum suffering from puerperal insanity. The Committee decided to defray the cost of a competent "home-help" to the extent of 20s. per week for a limited period and this was agreed to by the Scottish Board of Health.

In several of the rural districts it would be of considerable advantage if the District Nursing Associations employed "home-helps" who, in the case of poor working-class patients, might reside in the homes for a matter of a fortnight after the confinement for domestic purposes provided that no relatives could be found to perform this function. These "home-helps," however, can never take the place of a qualified District Nurse. They are totally inexpert in matters relating to nursing and when employed should be under the direct supervision of the District Nurse and Medical Attendant.

Maternity Hospital and Ante-Natal Annexe.

At the commencement of the Maternity Service and Child Welfare Scheme, arrangements were made with the Managers of the Aberdeen Maternity Hospital for the admission of cases to that Hospital and to the Ante-natal Annexe at a charge of 30s. per week per patient.

During the year ending 15th November, 1925, 124 cases were treated, 43 in the Ante-natal Annexe and 81 in the Maternity Hospital. The total cost of treatment was £285 8s. 5d., but patients made contributions amounting to £110 17s. 5d., leaving a net sum of £174 11s. to be paid by the Joint Committee for Public Health Services.

A Child Welfare Centre has been established at the Brander Library, Huntly, and this forms part of a Joint Clinic which also deals with tuberculous cases.

Other Child Welfare Centres are to be established at Peterhead and at Inverurie and in both cases the Centres will be of the nature of Joint Clinics, *i.e.* they will deal with persons coming under the three statutory schemes—the Maternity Service and Child Welfare Scheme, the Tuberculosis Scheme and the Scheme for the Medical Inspection and Treatment of School Children.

No special arrangements have yet been made for the treatment of defective teeth, of eye disease or of other ailments. When, however, these Child Welfare Centres are in proper running order it will be possible to utilise the services of our dentists to some extent for the treatment of nursing and expectant mothers and also for the treatment of children of pre-school age. Such dental services will, however, be restricted to the necessitous.

Educational Measures—Health and Child Welfare Exhibition.

It has been felt for some time that an attempt should be made in Aberdeenshire to arouse more general interest in Public Health matters, and that this should take the form of an endeavour to explain to individuals the general precautions that should be taken to prevent the spread of infectious diseases, and to bring to their notice the simple laws of health, by the understanding and observance of which the general health of the whole community would be bettered. More especially, however, is it important to demonstrate how the children, the coming generation, may be brought up to be as healthy as possible, for by building up a healthy rising generation we are building a bulwark against disease in general.

The Aberdeen Town Council had a very successful Public Health Propaganda Week which took the form of an Exhibition held at the City Hospital and evening lectures.

A large part of this Exhibition consisted of the Travelling Exhibition belonging to the National Council of Women. The presence of the Exhibition in Aberdeen presented an excellent opportunity for starting a Public Health propaganda campaign in various centres in the County. Arrangements were accordingly made to have the use of this Exhibition, and, in addition, several interesting exhibits, illustrating various aspects of Public Health work, were very kindly lent by the Public Health Authorities of the City, and I should like to record my indebtedness to them for the loan of the exhibits.

It was also arranged that lectures should be given in the evenings by myself, by members of my Staff and by Nurse Chalmers, the very capable Nurse Custodian of the Exhibition. These lectures were mainly illustrated by lime-light lantern slides.

The commencement of the campaign was made at Huntly Town Hall on the afternoon of 12th October, when the Marchioness of Aberdeen and Temair, who takes a deep interest in Child Welfare and Public Health matters, opened the Exhibition. After the opening, Nurse Chalmers demonstrated and explained the various exhibits and gave a lecture in the evening. On 13th October, the Exhibition was opened by Provost Christie and a lecture illustrated by lime-light views was given by myself on "The Prevention of Disease." In spite of very inclement weather there were large attendances and the Exhibition was an unqualified success. The audiences, which were largely composed of the mothers of Huntly and surrounding area, showed a deep interest in all that was shown and told to them, but especially in those exhibits that dealt with the upbringing of children—and this is precisely what is wanted, for, if the interest of the mothers is aroused, then a real endeavour can be made to have their homes run upon good hygienic lines, and the children brought up to understand and obey the laws of health. Before the Exhibition appeared in any locality, hand-bills and window-bills were distributed.

So encouraging was the result in Huntly that the Exhibition was later transferred to Udny, Inverurie, Turriff, Bucksburn and Stoneywood, and, wherever it was held, great interest was aroused and the attendances were practically in every case all that could be desired.

The success of the campaign induced me to retain the Exhibition for over three weeks, whereas the original intention was to use it only for ten days.

The exhibits which were of a practical nature were divided into five sections, each section dealing, in a very thorough fashion, with a different subject. There were also stalls illustrating the modern methods of prevention and treatment of Infectious Diseases and an exhibit dealing with the prevention, diagnosis and curability of tuberculosis.

If one may judge from the numbers who visited the Exhibition and who attended the evening lectures in the various districts where they were held, then undoubtedly interest from the personal point of view in general health matters has received a stimulus which it is difficult to see could have been achieved in any other way and it is certain that the practical value of this campaign has more than justified the money that has been spent on it.

Treatment of Pneumonia.

The importance of Pneumonia as a primary cause of death and as a complication in such diseases as Measles and Whooping Cough, led to the preparation of the following Report which was submitted in 1924 to the appropriate Committee:—

The Position of Pneumonia under Recent Legislature.

Under Article IV. of the Public Health (Pneumonia, Malaria, Dysentery, &c.) Regulations (Scotland), 1919, every medical practitioner, so soon as he becomes aware that a person upon whom he is in professional attendance is suffering from pneumonia, whether it be acute primary or acute influenzal pneumonia, must forthwith sign a notification form and transmit the same to the Medical Officer of Health of the district in which the person is found so suffering. It may here be explained that the expression "Acute Primary Pneumonia" in the aforesaid Regulations includes all cases of pneumonia that are "acute" (that is, characterised by sudden onset and considerable elevation of temperature) and "primary" (that is, not a sequence or result of some other disease). Accordingly, cases of broncho-pneumonia, if acute and primary, should be notified.

Under Article VI. of these Regulations, the Medical Officer of the Local Authority shall make such enquiries and take such steps as are necessary or desirable for investigating the source of infection and for preventing its spread. Further, if a medical practitioner be not in attendance on the patient, the Medical Officer of the Local Authority shall take such steps as may be necessary or desirable for ascertaining the nature of the case.

General Considerations.

Although pneumonia is a notifiable disease under these Regulations, the notification is imperfect and will continue to be imperfect so long as the Medical Officer of the Local Authority is unable to offer facilities for the experienced nursing of the cases, or, where desirable, for institutional treatment. Notification of any disease is futile unless treatment is provided. It is now generally accepted that institutional treatment is necessary for purposes of treatment more than for isolation; nevertheless, in certain cases, pneumonia is highly contagious.

In the County of Aberdeen, the Garioch District Committee alone has made any attempt to grapple with this disease. This Committee gives medical practitioners the opportunity of employing nurses—at the expense of the Local Authority—but only on rare occasions has this been taken advantage of.

It may be of interest to note that three cases, suffering from measles, complicated by pneumonia, were, during 1923, admitted to Summerfield Infectious Diseases Hospital for treatment.

Character of the Disease.

There are several types of pneumonia, and the prognosis varies with the type of the disease. The commoner types of pneumonia may be classified as follows :—

1. Acute Lobar Pneumonia.
2. Acute Influenzal Pneumonia.
3. Acute Broncho-pneumonia.
4. Pneumonia complicating other infections, *e.g.*, Measles, Whooping Cough, Tuberculosis, &c.

The Regulations deal only with the first three types, but, as one often finds that one type almost imperceptibly merges into another, no hard and fast line of demarcation can be drawn.

Mortality.

The great importance of pneumonia may be gauged from the number of deaths caused by the disease. There were only 115 notifications in the eight Districts in the County in 1923, and these are sub-divided as follows :—

1. Acute Primary Pneumonia . . .	81 cases.
2. Acute Influenzal Pneumonia . . .	6 ,,
3. Broncho-pneumonia	2 ,,
4. Type of Pneumonia not specified . .	26 ,,
	115 ,,

The number of deaths from pneumonia in the eight Districts during 1923 was 77, but the number of deaths in which pneumonia was the actual cause of death or was a contributory cause amounted to 107, and particulars relating to each District are shown in the Table in the Appendix. Of the 107 deaths, 40 occurred in children under 1 year of age, and 52 in children under 2 years of age. It is in young children under 2 years of age that pneumonia is specially lethal, and the treatment of such cases in properly ventilated wards, and particularly with the aid of expert nursing services, would tend most materially to lower this grave mortality.

In the eight County Districts, in 1923, pulmonary tuberculosis accounted for 70 deaths. The deaths from pneumonia thus exceeded those from pulmonary tuberculosis.

General Treatment.

As the causation of pneumonia is varied, it follows that a scientific treatment of the disease depends on a scientific investigation into the actual cause in each individual case, so far as this can be determined.

Necessity for Treatment.

(*a*) *Domiciliary Treatment.*—Where the home conditions are good and where proper nursing facilities can be obtained, the patient should be treated at home. Skilled nursing in the treatment of pneumonia is of vital importance and is one of the main assets we have in combating the disease.

(*b*) *Institutional Treatment.*—When it is impossible for nurses to be accommodated in the homes of patients, institutional accommodation must be provided. Parenthetically, I would state that, in my opinion, this form of treatment will ultimately be found to be the ideal one. The value of serum therapy cannot be gainsaid, and this method of treatment can only be carried out in a central hospital with contiguous laboratory facilities.

The objection may be raised that it is unsafe to remove a patient suffering from pneumonia from his home—whatever the conditions therein may be—to a distant hospital, but, in view of the easy and comfortable means of transport which are now available, I do not think that there is much strength in this objection. As a matter of fact—except in cases where there are signs of real cardiac embarrassment—it is quite safe to remove a patient suffering from pneumonia up to and including the fourth day, and some authorities hold that removal may be undertaken with safety up to the end of the fifth day.

Outline of Suggested Scheme.

(*a*) Domiciliary Treatment.

I would suggest that, where it is decided that patients should be treated at home, both a day and a night nurse should be supplied—if the gravity of the case demands such—and that the cost of such services should be met by the Local Authority when the relatives are unable to bear this expense.

The District Nurses will play an important part in the domiciliary treatment of cases suffering from pneumonia. Then, again, two additional nurses may soon be attached to the County Nursing Association as an emergency staff, and their duties would include, *inter alia*, the nursing of cases of measles and whooping cough, in which diseases broncho-pneumonia forms the most prominent sequela.

(*b*) Institutional Treatment.

As already stated, this is, in my opinion, the ideal form of treatment, and the removal should be carried out under the direct supervision of competent and fully trained nurses. Cases of pneumonia cannot possibly be accommodated at the local infectious diseases hospitals, as the beds available in these hospitals are limited in number. The only institutions to which such cases can be sent are (1) the Aberdeen Royal Infirmary, (2) the Aberdeen City Hospital, and (3) Huntly Jubilee Cottage Hospital. As the Aberdeen Royal Infirmary is purely a voluntary institution, and as the waiting lists for admission thereto are always large, arrangements for adequate treatment could not be made with the Managers of this institution. On the other hand, in the case of the Aberdeen City Hospital, it would be possible to make arrangements whereby cases of pneumonia from the County could be admitted, at reasonable rates.

In 1923, 7 cases of pneumonia were treated in Huntly Jubilee Cottage Hospital—6 suffered from lobar pneumonia and 1 from broncho-pneumonia; 5 cases were complicated by empyema; 1 case died. I would suggest that cases residing in the neighbourhood of Huntly and requiring institutional treatment should be admitted to this hospital, if it were decided that the long journey to Aberdeen would be deleterious to the patients' condition.

By the scientific treatment of this disease ordinary complications, such as empyema, may often be warded off, or at least recognised at the earliest possible moment. Pneumonia, moreover, in a considerable number of cases is the starting point of pulmonary tuberculosis. By carefully keeping patients under observation until resolution is complete, and by insisting upon a proper period of convalescent treatment, there would, I am certain, be an appreciable diminution in the incidence of pulmonary tuberculosis.

In considering a scheme for the comprehensive treatment of pneumonia, I should like to draw attention to the frequency with which pneumonia follows measles, and the Council should keep in mind the necessity of providing institutional accommodation for cases of measles so complicated.

In view of the fact that the treatment of pneumonia is intimately associated with all schemes for dealing with tuberculosis and maternity service and child welfare, I think that the time is now opportune for the Council to adopt a scheme for the treatment of pneumonia, and this scheme should, for administrative reasons, embrace not only all the Districts in the County but also all the Burghs. The Scottish Board of Health approve in principle of the cost of providing institutional and domiciliary treatment of cases of pneumonia amongst expectant mothers and of primary broncho-pneumonia amongst children under 5 years of age being allowed as a competent charge against the Child Welfare Grant, subject to their being satisfied with the detailed arrangements to be made.

Details of Deaths Caused by or Associated with Pneumonia, 1923.

TYPE OF DISEASE.	Deer.	Ellon.	Garioch.	Deeside.	Turriff.	Aberdeen.	Alford.	Huntly.	Transferred Deaths.	TOTAL.
Acute Primary Pneumonia,	6	6	7	4	4	2	4	3	3	39
Acute Influenzal Pneumonia.	—	—	—	—	—	—	—	—	—	—
Broncho-pneumonia,	13	1	4	1	3	2	1	1	1	27
Pneumonia, complicating other infections, &c.,	12	3	6	1	6	3	1	1	8	41
TOTALS	31	10	17	6	13	7	6	5	12	107

After consideration, the County Council unanimously approved of the foregoing Scheme, and resolved to submit it for the consideration of the several District and Burgh Local Authorities.

There is no doubt that in the course of time this Scheme will rank as one of the most important from the point of view of preventive medicine. It was later submitted to the Scottish Board of Health which sanctioned its adoption.

The Districts and the Burghs of Ballater, Ellon, Huntly, Kintore, Oldmeldrum, Rosehearty and Turriff have adopted the Scheme, and patients may now be sent from these areas by the Medical practitioners through the Medical Officer of Health to the following institutions :—

1. City Hospital, Aberdeen.
2. Insch and District War Memorial Hospital, Insch.
3. Huntly Jubilee Cottage Hospital, Huntly.
4. Fyvie Cottage Hospital, Fyvie.
5. Kincardine O'Neil War Memorial Hospital, Torphins.

In connection with this disease, it seems highly desirable that as many cases as possible should be sent to the Aberdeen City Hospital where contiguous bacteriological facilities are available. It has been shown that pneumonia may be divided into four groups or types according to the bacteriological character of the pneumococci and those found to be due to the Type I. pneumococcus can be treated very successfully by a serum which is given intravenously every twelve hours in 50 c.c. doses until resolution of the disease supervenes. The results of treatment by this serum in the Aberdeen City Hospital have been most satisfactory.

SECTION IV.

School Medical Services.

SCHEME FOR THE MEDICAL INSPECTION AND TREATMENT OF SCHOOL CHILDREN.

The Scheme for the Medical Inspection and Treatment of School Children which began to operate on 1st September, 1910, embraces the eight Districts of the County and the ten constituent Burghs. There were then two School Medical Officers. In the following year, an additional School Medical Officer was appointed. In 1915, the Scheme was suspended owing to the War. It was recommenced with two School Medical Officers in 1919 and in 1924 a third permanent School Medical Officer had to be added.

Dr. Galloway, who had previously acted under the Secondary Education Committee, was appointed Ophthalmic Surgeon by the Education Authority in June, 1919. In January, 1921, a whole-time Dentist was appointed, and, later in that year, the dental services were augmented by the employment of five part-time dentists. The proposed extension of this aspect of the Scheme will be discussed later.

Unlike other Sections of this Report, the part relating to the Medical Inspection and Treatment of School Children deals with the period from 1st August, 1924, to 31st July, 1925. An endeavour was made to obtain the sanction of the Scottish Board of Health to making January to December the period dealt with for the sake of uniformity, but the Board stated that, for statistical and other reasons, the usual school period must be adhered to. In this Section, the statistical tables have been cut down to a minimum in order to reduce cost of printing, but detailed statistical data will be available in the Office of the Medical Officer of Health for those interested in any special branch of the work.

Number of Schools and Pupils.

In 1910, the number of schools in the area was 268, and the school population, that is, children from 5 to 14 years of age, was 34,059. To-day the number of schools is 238 and the number of pupils on the Register as at 31st July, 1925, was 26,395. This does not mean that thirty schools have disappeared; in former days, those schools with Higher Grade Departments were counted as two, but now they are regarded as one, and this would account for the apparent disappearance of 17 schools.

The percentage attendance for the session 1924-1925, was 90·3.

Number of Visits to Schools.

The number of visits by the Medical Officers to Schools for routine examination was 474.

Number of Special Visits.

The number of special visits, that is visits other than those for purposes of systematic examination, was 593 as compared with 308 in the previous year.

Sanitary Condition of Schools.

(*a*) *Ventilation.*—The system of ventilation which exists in all the County schools is the natural method. The best means of ventilation is that aimed at in hospitals, namely, cross ventilation; this is procured by windows opening on opposite sides of the class-room, and is being introduced in new buildings, and, whenever possible, in reconstructions. Many of the rooms have roof ventilators which, however, probably do not function in some instances.

Free ventilation should obtain throughout the school day, and it would be advantageous if the class-rooms were continuously flushed with fresh air both at nights and during week-ends.

(*b*) *Heating.*—The heating of the schools is usually by open fires. It is almost impossible to get an equable temperature of, say, 60° F. by this method. The optimum temperature in the infant departments is 65° F., and in other class-rooms 56° to 60° F. The children near the fire are usually too warm and those at the corners of the rooms too cold. After all, little harm is done even if the temperature of the room is not the same throughout provided that the children do not sit hour after hour with wet feet. The question of the heating of country schools is a difficult one, but it can usually be adequately met by fires augmented by stoves with separate flues, but if the latter are used, special attention must be paid to ventilation in order to avoid a foetid and uncomfortable atmosphere which has a marked effect on the mental activity of the pupils. Efficient heating and ventilation are intimately associated. If the rooms are not properly warmed, the ventilation will be imperfect.

(*c*) *Lighting.*—Proper lighting is all-important so far as the mental welfare of the children is concerned. But more important than the mental outlook is the fact that bad lighting leads to eyestrain, to errors of refraction and even to physical deformities. It has sometimes been found that the best use of available light has not been taken advantage of on account of the faulty situation of the desks. In order to abolish shadows in reading and writing, the main light should fall on the books from the left and the supplementary light from behind.

(*d*) *Disinfection.*—There has been submitted to the Joint Committee for Public Health Services the following Memorandum on Disinfection of Schools :—

In the Circular of the Scottish Education Department of November, 1907, routine disinfection of schools is called for and specific directions are given therein.

In addition to this routine disinfection, however, there may be a call for special disinfection during or following an outbreak of infectious disease. The main source of infection is the person, but there may be, to some slight extent, possibility of infection being conveyed by inanimate objects. Of any efficient process of school disinfection, thorough cleansing is the essential and most arduous part.

1. All *windows* should be opened as fully as possible to admit fresh air and sunlight, and should be kept open throughout the operations.
2. *Walls* of rooms and *passages* and *furniture* may be sprayed with formalin or other standardised disinfectant solution, or they may be washed down with a do-all mop and a standardised disinfectant solution, preferably lysol (1 in 100). Such spraying or washing should always be commenced below and continued upwards in order to avoid staining.
3. *Desks, seats,* and other varnished *woodwork* may be well rubbed over with a cloth soaked in paraffin; this obviates risk of injury from water.
4. *Window frames, cupboards,* and *blackboards* must be washed with soap and warm water. *Slates* should be washed with soap and warm disinfectant solution.

5. All *movable articles*, contents of cupboards, &c., should be taken outside and exposed to the fresh air.
6. *Maps* should be dusted and exposed similarly.
7. All *floors* should be swept, damp sawdust being used as a dust allayer. Dust should be removed from all ledges and projections by a duster damped with the disinfectant solution. Thereafter, the floors should be thoroughly scrubbed with soap and a warm solution of disinfectant. No crevices must be allowed to escape.
8. *Books* which have been handled by an infected pupil should be inter-leaved with pieces of blotting-paper damped with formalin and wrapped up for twenty-four hours. If the expense is not too great, it is better to burn infected books.
9. *Sewed work* should be hung out and thoroughly aired.
10. *Penholders*, *pencils*, and *rulers*, if used indiscriminately, should be wiped with a cloth soaked in warm Izal solution.
11. *Mats* should be taken outside and be well beaten.
12. Thorough washing of the *sanitary accommodation* must be carried out. Disinfectant is not necessary unless for washing the seats.
13. *Towels* should be boiled and washed.
14. If *mugs* are used for drinking, they should be immersed in Izal solution for twenty-four hours and thereafter well rinsed out. As children will drink direct from taps, even though this is forbidden, all taps should be well washed, dried, and polished.

It will be seen that most of the work is such as can well be done by the school cleaners, except the matters mentioned under heads 8, 9, and 10, in regard to which the Head Teacher should give the necessary instructions. The only process necessitating special knowledge is the relatively unimportant spraying, which would fall to be done by the Sanitary Inspector.

In the City of Aberdeen, during the past 16 years, no school disinfection has been carried out by the sanitary officials of the Public Health department. As a matter of fact, it is now generally acknowledged that the most efficient method of school disinfection is thorough aeration of the building and the free use of soap and water.

A survey of the sanitary conditions of the schools was last made in 1912. It is proposed to carry out a similar survey in 1926. Special attention will then be directed to the lighting, ventilation and cleanliness of the schools. In this connection, it may be stated that a full Memorandum on the duties of school janitors and cleaners was drawn up and circulated to the School Management Committees in September, 1920, but the suggestions contained in the Memorandum related only to those schools with full-time janitors and cleaners. It was felt that in the smaller schools, where these officials were only employed part-time, greater latitude should be allowed. Copies of this Memorandum may be obtained on application to the Clerk to the Education Authority or to the Medical Officer of Health.

ORGANISATION AND ADMINISTRATION.

System of Medical Inspection.

All the School Medical Officers were appointed Assistant Medical Officers of Health under the Co-ordinated Scheme and were later appointed Assistant Medical Officers of Health of the several Districts of the County and of the nine Burghs participating in the Scheme in its entirety. Of the three Assistant

Medical Officers of Health specially engaged in school work, one is resident at Maud for schools and general public health work in the Buchan area, and another at Insch for the western section of the County. The third Assistant Medical Officer has his headquarters in Aberdeen, and works the schools in this area and on Deeside: he also assists in routine examinations at such large centres as Peterhead, Fraserburgh, Huntly, Turriff and Inverurie. On occasion, the Assistant Medical Officer who is chiefly engaged in tuberculosis is available for emergency school work.

Dental Treatment continues to gain popularity and the number of "consents" obtained—especially in the case of the whole-time dentist—is steadily increasing. When the Central Public Health Office has been established, the whole-time dentist will be relieved of much clerical work and will be able to devote more time to treatment.

School Nurses.

There are 34 District Nursing Associations in the County, and one Association employs two nurses. All these 35 nurses perform school work and in respect of this work, each Association receives an annual grant of £20.

Under a separate arrangement, the Peterhead Health Visitor acts as School Nurse.

The duties of the District Nurses, in their capacity as School Nurses, are given in the following circular which is in the hands of all the nurses :—

1. To assist during the Medical Officers' routine inspection, when required.

2. To visit all children reported by Medical Officers as requiring treatment and to continue visiting and urging treatment until either it is obtained or a definite refusal to seek it is expressed. In some cases, especially first visits, these visits could with advantage be made at the schools; in most cases it will be necessary to visit the homes. The "following up" is the most important part of the work falling to your lot as School Nurse. The aim is to cause as many as possible of the cases requiring treatment to be treated. Where, after repeated visits, it is found that the parents refuse to obtain efficient treatment it will be necessary to report the case to the Chief Medical Officer of Health as legal action may have to be taken.

3. To report periodically to the Chief Medical Officer of Health on "follow up" records the results of recommendations for treatment, whether treated or untreated; and if treated, the result of treatment, that is, whether cure, benefit or failure has been attained.

4. To visit schools at frequent irregular intervals to make surprise inspections of suspected or chronic vermin infections. These would be made apart form any formal request by Chief Medical Officer or Head Teacher, and result reported to Chief Medical Officer.

5. To assist the School Oculist during his visit to a Centre.

6. To assist the School Dentists.

Heading No. 2 is the main part of the work.

"Follow up" Records have been prepared. They contain the name of the School, the name of the child and address, the defect requiring treatment, spaces for entering dates of visits, results and remarks. These will be prepared by Medical Officer at the School and sent to the Nurse who will visit as soon as convenient. For verminous cases an Urgent Note will be sent you. In the case of defective vision, many prefer to wait for the visit of the School Oculist to the nearest centre.

A monthly return of the time spent daily in School, in "following up" at homes, and number of visits as School Nurse, compared with time spent in other work is required for the information of the Board of Health, the Joint Committee for Public Health Services and the County Nursing Association.

Acknowledgement is here made of the assistance given to the Medical Officers by members of the school staffs, especially in those areas where there are no District Nurses.

Arrangements for " Following Up."

"Follow up" Records, with the names and addresses of the children requiring treatment, and the nature of the ailment calling for treatment are prepared from data elicited by the Medical Officers at their routine examination. These are sent to the School Nurses who on their next visit to the school ascertain whether or not the defects have been attended to. If they have not, or if the results of treatment seem to be unsatisfactory, the nurses visit the homes of the pupils concerned.

The District Nurses are doing excellent work in the performance of their school duties; they are assisting very considerably in having physical defects remedied and it is a great pity that the whole County is not covered with a network of nurses. Considering the present financial stringency, however, it will be a considerable time before this ideal is realised.

Perhaps the most unsavoury part of the nurses' duties is the "following up" of verminous cases. It is always a thankless and distasteful task to bring to the notice of parents that their children are verminous, but in no instance can it be said that a nurse evaded her duty in this respect.

Supervision of Infectious Diseases in Schools.

The number of cases suffering from infectious disease was comparatively small. Six closures were effected in 1925, as follows :—

Name of School.	Disease.	Period of Closure.
Logie-Coldstone,	Scarlet Fever,	29/1/25—13/2/25
Steinmanhill,	Measles,	9/2/25—20/2/25
Glentanar,	Measles,	30/2/25— 2/4/25
Glass,	Scarlet Fever,	27/7/25—31/7/25
Peterhead Infant (Classes 6 and 7),	Measles,	14/9/25—25/9/25
Tyrie,	Mumps and Whooping Cough,	21/12/25—23/12/25

One advantage, and not an inconsiderable one, of the Co-ordinated Scheme is that Medical Officers whose chief province is school work may now, as Assistant Medical Officers of Health, take an active and useful part in the investigation and control of infectious diseases amongst school children.

With possibly Measles as an exception, school closure is of little or no value in checking the spread of the ordinary infectious diseases. The following *Memorandum on the questions of the Control and Prevention of Infectious Diseases and of School Closure* was recently submitted chiefly for the guidance of Head Teachers :—

General.

The term "Infectious Disease" is not defined in the Public Health (Scotland) Act, 1897, and may therefore be applied not only to a dangerous disease such as scarlet fever but also to skin diseases such as scabies. Section 57 of this Act, as amended by the Public Health (Scotland) Amendment Act, 1907, states:—

> "Every parent or person having care or charge of a child who is or has been suffering from infectious disease, or who resides in a house where such disease exists or has existed within a period of three months, who shall knowingly or negligently permit such child to attend school without procuring and producing to the teacher or other person in charge of such school a certificate from the medical officer, which he shall grant free of charge, or from some legally qualified medical practitioner, *that proper precautions against spreading disease or infection have been taken, and that the child may attend school without risk of infecting others*, shall be liable to a penalty not exceeding forty shillings. Any teacher or person in charge of any school, who shall knowingly permit any child to attend such school in contravention of the provisions of this Section, shall be liable to a penalty not exceeding forty shillings."

For administrative purposes, infectious diseases may be divided into (1) notifiable diseases according to the Infectious Diseases (Notification) Act, 1889, and (2) those to which the Act does not apply.

(1) *Notifiable Diseases.*

This group includes scarlet fever or scarlatina, diphtheria, typhoid or enteric fever, paratyphoid fevers, cerebro-spinal fever, acute anterior poliomyelitis or infantile paralysis, small-pox, and tuberculosis in all its forms.

When we consider the administrative effort and expense involved in the control and prevention of these diseases, it may appear that the results are disappointing, but one must recognise the difficulty which not infrequently arises in connection with the detection of certain cases of scarlet fever and diphtheria. A patient may suffer from a very mild attack of scarlet fever, and may attend school and an ultimate diagnosis may only be arrived at from the peeling of the skin. In the meantime this patient may have infected others who may suffer from the disease in virulent form. Preventive measures can only be adopted when the disease has been recognised; if not recognised, no precautions are taken.

Then again, a definite percentage of patients suffering from scarlet fever—even if retained in Hospital for the usual period of six weeks—may continue to be a source of infection to others from retention of infection in the nose and throat, for complete freedom from infection does not always coincide with complete convalescence. In the same way diphtheria patients may spread the germ for weeks or months after apparent recovery.

In the case of diphtheria, it often occurs that a person who is not susceptible to, and who exhibits no symptoms of, the disease may yet harbour the germs in the nose and throat, and be capable of infecting others. These are known as "carriers" or infected contacts.

There are thus three sources of unrecognised infection:—

(*a*) Mild and unrecognised forms of the disease.
(*b*) Retention of infection after recovery.
(*c*) "Carriers."

(2) *Non-Notifiable Diseases.*

Amongst the non-notifiable infectious diseases of note are measles, German measles, whooping cough, chicken-pox, mumps, ringworm, scabies or itch.

ISOLATION OF PATIENTS.

The period of isolation of a patient suffering from an infectious disease depends on the duration of the illness and the minimum period of infectivity. In the case of skin diseases, the duration of infectivity depends on the success of the treatment employed.

The ordinary infectious diseases may be grouped into two classes as regards the minimum period of infectivity:—

(*a*) Three weeks—
- Diphtheria.
- Measles.
- German measles.
- Chicken-pox.

(*b*) Six weeks—
- Scarlet fever.
- Cerebro-spinal fever.
- Typhoid fever.
- Whooping cough.
- Small-pox.

Certain skin diseases require prolonged treatment. Ringworm of the scalp, treated by chemical agents, may take three to six months to cure.

Ringworm of the skin may be cured in three weeks.

Scabies or itch and impetigo may be cured with appropriate treatment within a fortnight.

PARTICULAR DISEASES.

SCARLET FEVER.—Scarlet fever is characterised by sickness and vomiting, sore throat and feverishness, followed by a scarlet rash which appears on the second day on the face and spreads all over the body. Desquamation or peeling of the skin usually follows the rash. It sometimes happens that a patient discharged from hospital, apparently free from infection, communicates the disease to another member of the household. It is very difficult in practice to prevent the occurrence of such "return" cases; parents would diminish this risk by keeping the patient isolated from other children for at least a week after returning from hospital.

Exclusion.—All children living in an infected house should be excluded from school for ten days after the house has been disinfected, disinfection being carried out after the removal of the patient to hospital or his recovery at home.

School Closure.—Closure is never required in towns, and even in country areas should seldom be resorted to. Closure of a school by the Public Health Authority is not warranted in the case of epidemics unless the Medical Officer of Health is satisfied that by this means the spread of the disease will be limited or prevented.

DIPHTHERIA.—The onset of the disease is gradual. The chief symptoms are malaise, rise of temperature and whitish patches on the throat. It is an insidious disease and is specially fatal to young children.

Exclusion.—All children living in an infected house should be excluded from school for 10 days after the house has been disinfected.

School Closure.—School closure should seldom be resorted to, but the examination of scholars in schools by the Medical Officers of Health will do much to control the disease.

TYPHOID FEVER.—This fever is protean in its manifestations and is often difficult to diagnose. The infection is carried from one person to another by means of infectious discharges. The onset is very gradual, and the only symptoms in slight cases are fever, headache, loss of appetite, and general unwellness. Diarrhœa is usually a prominent symptom.

Exclusion.—Children living in an infected house should be excluded from school for twenty-one days after the house has been disinfected.

School Closure.—Closure is never called for.

MEASLES.—Measles is highly infectious, and it begins with symptoms like an ordinary cold in the head, coughing, sneezing, and running at the eyes and nose. On the fourth day, or thereby, a bright rash appears, first on the face and then all over the body. Young children require careful nursing, as a common and dangerous sequela of this disease is broncho-pneumonia.

Exclusion.—There is no provision in the County of Aberdeen for the institutional treatment of cases of uncomplicated measles. Children suffering from measles should be excluded from school for three weeks. With regard to children from an infected house, the following regulations should be observed:—

(1) *Children under eight years*, whether or not they have had measles, should be excluded for a period of one month from the date of onset of the last case in the house.

(2) *Children of eight years and over.*—*(a)* If they have not had measles, they should be excluded for a fortnight from the onset of the last case in the house. (*b*) If they have had measles, they may attend school.

School Closure.—The question of school closure is rather difficult in the case of measles. In towns closure has no effect in controlling the epidemic, and in rural areas it is usually adopted too late to be of any real value. If measles is introduced into a school, the first crop of secondary cases will occur about 12 days after the original case, and 12 days after that there will be a second crop. If closure is delayed until the first crop appears, then it has no influence in preventing the spread of the disease. A class closure of short duration, after the occurrence of the first case *may* control the infection, the class being closed on the ninth day after the sickening of the first case for a period of five days. Thereafter only those who have sickened ought to be excluded together with those in the same house who have not had the disease or are under eight years of age.

GERMAN MEASLES.—It is sometimes difficult to diagnose this disease from scarlet fever and measles. There is an intense scarlet rash, watering of the eyes and enlargement of glands.

Exclusion.—Sufferers should be excluded from school for 31 days. Children living in an infected house should be excluded from the Infant Department for 21 days after the onset of the last case.

School Closure is never necessary.

WHOOPING COUGH.—This disease is very fatal in young children—especially those under five years of age.

Exclusion.—Children suffering from whooping cough should be excluded for six weeks at least; in fact, they ought to be kept from school until the cough has ceased. Children residing in an infected house should not be allowed to attend the Infant Department, but older children need not be excluded.

School Closure.—The closure of the Infant Department only is sometimes desirable.

CHICKEN-POX.—This is not a serious disease. If small-pox became prevalent, chicken-pox would temporarily be made a notifiable disease.

Exclusion.—The patients are excluded during the minimum period of infectiousness, namely, 3 weeks. "Contacts" need not be excluded.

School Closure is never necessary.

Mumps.—This disease is characterised by swelling of the glands in front of the ears. It is not a serious ailment.

Exclusion.—Actual cases *only* are excluded for a period of three weeks.

Pulmonary Tuberculosis.—In this County there is ample provision for the treatment of patients suffering from tuberculosis, whether pulmonary or non-pulmonary.

Exclusion of the patient is necessary so long as the sputum is found to contain tubercle bacilli.

Skin Diseases.—(1) *Scabies,* or itch, is a contagious disease, and pupils suffering from this disease ought to be excluded until they are free from infection.

(2) *Ringworm.*—Children suffering from ringworm, whether of the head or the body, should be excluded until they are free from infection.

(3) *Impetigo* is also a contagious disease which warrants exclusion by the School Medical Officers.

The use of towels in the school by a pupil suffering from skin disease should be forbidden.

Each case of skin disease must be treated on its merits.

From the foregoing statement it will be seen that actual school closure is seldom necessary on medical grounds. In the City of Aberdeen, school closure has only been resorted to on three occasions during the last 15 years, and then it was owing to outbreaks of influenza which so depleted the teaching staff that it was impossible to carry on.

With regard to the actual return of the patient to school, it is highly desirable that the child should be restored to its usual health, and, with this aim in view, the re-admission should usually be delayed until 10 days after disinfection or discharge from hospital.

The number of days of isolation and subsequent exclusion of patients suffering from the ordinary zymotic diseases is shown below together with suggested period of exclusion of "contacts."

	Patients.		Contacts.		
	Isolation during illness.	Exclusion after recovery.	Infants.	Exclusion. Juniors.	Seniors.
Scarlet fever,	42	10	10	10	10
Diphtheria,	28	10	10	10	10
Typhoid fever,	42	21	21	21	21
Measles,	21	10	21	—	—
German measles,	21	10	21	—	—
Whooping cough,	42	10	42	—	—
Mumps,	21	10	—	—	—
Chicken-pox,	21	10	21	—	—

The period of exclusion of contacts is reckoned from the date of terminal disinfection, or of discharge of patient from hospital.

In Aberdeenshire, it is customary for a head teacher to communicate with the Clerk to the Authority when there is an outbreak of infectious disease in the school district and an abnormal percentage of pupils is absent. The Clerk then communicates in all cases with the County Medical Officer of Health by whom personal investigation is made before statutory certificates of closure are granted.

The usual procedure obtaining in this County is for the medical practitioners to send the notifications of infectious diseases to the Sanitary Inspectors and thus, as a rule, two or three days elapse before the Medical Officer of Health becomes aware of the outbreak, unless the practitioners communicate direct—a practice which they often follow. As it is of the greatest importance, however, that the

Medical Officer of Health should have notice as early as possible of even one case which may be suspected to be of an infectious character, it is suggested that whenever a head teacher becomes aware or even suspicious of the occurrence of a case of infectious disease—whether notifiable or not— amongst his pupils, he should communicate direct with the Medical Officer of Health, who could then have the matter investigated on the spot, and, if the question of school closure later arose, could deal with it from actual knowledge of the facts.

The Scottish Education Department intimate that "it is of great importance that the earliest possible intimation of sickness ascertained or supposed to be infectious in the persons of scholars or of the family to which they belong should be given *by schoolmasters to the Medical Officer of Health.*"

This suggestion is in addition to and not in place of the present practice of notifying outbreaks and their effect on the school attendance to the Clerk of the Authority.

In an Appendix to this Report, there is given the list of diseases in respect of which notification must be made by medical practitioners to the Medical Officer of Health in terms of Section 6 of the Infectious Diseases (Notification) Act, 1889, and of Orders made by the Local Government Board for Scotland or by the Scottish Board of Health.

APPENDIX.

List of Notifiable Diseases.

Small-pox.
Cholera.
Diphtheria.
Membranous Croup.
Erysipelas.
Scarlatina or Scarlet Fever.
Typhus.
Typhoid or Enteric Fever.
Relapsing Fever.
Continued Fever.
Puerperal Fever.
Ophthalmia Neonatorum.
Malaria.
Dysentery.
Trench Fever.
Acute Primary Pneumonia.
Acute Influenzal Pneumonia.
Acute Broncho-Pneumonia.
Cerebro-Spinal Fever.
Acute Anterior Poliomyelitis.
Tuberculosis (all forms).

THE PHYSICAL CONDITION OF THE SCHOOL CHILDREN.

A. *Total Number of Children Examined*—

(*a*) Systematic Examination—		
Beginners	2,680	
Nine-year olds	2,676	
Twelve-year olds	2,574	
Sixteen-year olds	149	
		8,079
(*b*) Special cases	1,629	
Number seen at special visits and re-examinations	9,533	
		11,162
Total . . .		19,241

B. *Number of children notified to parents as suffering from defects* . . . . 1,644 or 17·1%

Number placed under observation for re-examination at subsequent visits, without treatment being recommended 1,953

C. *Number of Children Receiving Attention*—

Out of 2,642 defects in children requiring treatment, 1,631 or 61·7 per cent. received attention during the year. This number, 2,642, does *not* include children notified to the Nurses by the School Dentists, but *does* include 417 recommended by the Medical Officers for dental treatment. Out of the 417, only 135, or 32·4 per cent. were treated. The percentage treated over all districts where the Nurses "follow up" is slightly over 70, if the 417 are excluded. In this connection it is interesting to compare Peterhead and Fraserburgh. The following Table shows the results in the different schools :—

TABLE I.

SCHOOL.	PETERHEAD.		FRASERBURGH.	
	Recommended for Treatment.	Treated.	Recommended for Treatment.	Treated.
Academy	34	25	23	22
Central	119	90	150	86
Episcopal , . . .	31	19	98	39
North	225	159	126	68
Infant	64	44	86	59
Total . . .	473	337	483	274
Percentage	71·1 %		56·7 %	

In the following statistical tables, 8,079 is the number of pupils who underwent the full *systematic* examination. In addition, amongst cases submitted for *special* examination, the number of defects found under each heading is shown in italics.

D. *Clothing*—

Clothing insufficient, dirty or in bad repair in . . 43 or ·5 %
Special cases *5*

E. *Footgear*—

Footgear unsatisfactory in . . . . . . 12 or ·14 %
Special cases *6*

The Education Authority contribute to supplement local agencies in the larger centres of population for the purpose of providing clothing and boots in necessitous cases.

F. *Average Heights and Weights of Children*—

BOYS.

No. of Children.	Average Age in years.	Average Height in inches.	Average Weight in lbs.
120	$4\frac{8}{12}$	39·8	38·6
776	$5\frac{4}{12}$	42·9	42·7
448	$6\frac{4}{12}$	45·1	44·8
330	$7\frac{2}{12}$	45·5	46·9
647	$8\frac{7}{12}$	46·8	48·2
560	$9\frac{3}{12}$	49·7	52·1
707	$11\frac{6}{12}$	52·6	56·3
687	$12\frac{3}{12}$	55·9	63·6

GIRLS.

No. of Children.	Average Age in years.	Average Height in inches.	Average Weight in lbs.
123	$4\frac{7}{12}$	39·5	38·9
728	$5\frac{5}{12}$	42·2	41·2
403	$6\frac{1}{12}$	44·9	43·9
64	$7\frac{3}{12}$	45·6	47·2
595	$8\frac{6}{12}$	48·3	49·9
548	$9\frac{3}{12}$	50·8	54·8
507	$11\frac{6}{12}$	53·5	69·3
571	$12\frac{3}{12}$	55·8	77·9

Each school has a weighing machine, but many machines are unreliable. A number have been repaired; several still require repairs and there is more than a suspicion that the damage is, in some instances, not entirely caused by use or accident. Not infrequently school-rooms are granted for public functions and it may be that the damage is then done.

An estimation of height and weight is a true index of growth and this again is dependent on the health of the individual. Thus the average height and weight of a sufficiently large number of children of any group may safely be taken as an index of the health of that group.

If we consider the preceding data so far as it concerns the boys, we find that, compared with five years ago, the height was greater in all the groups except the five-year olds and eight-year olds, and the average weight was this year less only in the eleven- and twelve-year old groups. The average heights and weights of girls, in similar age-groups, are practically identical with those of 1920.

G. *Cleanliness of Head and Body*—

	Number.	Percentage.
(*a*) Head—		
Dirty or Nits	1,433	17·7
Verminous	113	1·4
Special cases	*16*	—
(*b*) Body—		
Dirty	106	1·3
Verminous	125	1·5
Special cases	*18*	—

The cost of cleansing verminous persons and the disinfection of verminous houses and their contents is a charge against the Local Authority. Means of disinfecting persons, clothing, bedding, &c., are available at most of the Infectious Diseases Hospitals throughout the County and there is, in addition, a Disinfecting Station at Huntly.

	Number.	Percentage.
H. *Condition of Skin*—		
(*a*) Head—		
Ringworm	11	·1
Impetigo	64	·7
Favus	—	—
Other diseases	3	·03
Special cases	*16*	—
(*b*) Body—		
Ringworm	1	·01
Impetigo	3	·03
Scabies	20	·2
Other diseases	2	·02
Special cases	*18*	—
I. *Nutrition*—		
Above average	550	6·8
Average	7,122	88·1
Below average	401	4·9
Very bad	4	·04
Special cases	*12*	—
J. *Teeth*—		
Sound	1,294	16·01
1 to 4 decayed	5,797	64·3
5 or more decayed	1,147	14·2
Oral Sepsis	147	1·8
Special cases	*186*	—
K. (*a*) *Nose*—		
Catarrh	132	1·6
Obstruction	11	·1
Other diseases	7	·08
Special cases	*12*	—
(*b*) *Throat*—		
Tonsils—		
Slightly enlarged	559	6·9
Markedly ,,	222	2·7
Adenoids—		
Probably present	59	·7
Present	43	·5
Other diseases	179	2·2
Special cases	*160*	—

The question of the necessity of surgical interference in cases of enlarged tonsils and adenoids is a vexed one . It must clearly be understood that in no case of enlargement of the tonsils and adenoids do the Medical Officers of Health advise operation : they may have their own ideas about the necessity or otherwise for removal, but their duty is to bring the condition to the notice of the family doctor who, if he considers that operation is necessary, either operates or arranges for the operation in one of the General Hospitals.

Removal of the tonsils and adenoids is not necessary or advisable in every case of enlargement. Generally speaking, removal should be undertaken *only* when the condition is retarding the physical or mental growth of the child. Before removal is decided on, it must be determined whether the condition is attributable to oral sepsis, whether it will respond to appropriate diet, plenty of fresh air and attention to general hygiene, and whether nasal drill and breathing exercises will not alleviate the symptoms. The questions to be decided before operation is undertaken are therefore :—

1. Are carious teeth present?
2. Is the condition temporary and will it subside in due course?
3. Is the growth of the child, physical or mental, being impaired by the abnormality present?

One must not lose sight of the fact that the presence of adenoids, which are growths of lymphoid tissue at the back of the throat, may bring serious consequences to the child and chief amongst these are :—

1. Deafness.
2. The dull, apathetic "adenoid face, nose and voice."
3. Asthma and Pulmonary Tuberculosis. In a marked case of adenoids, the posterior nares are blocked and unfiltered air enters the lungs. Now, inside the nostrils, there are numerous small hairs and moist recesses which act as a filter, and the unpurified air enters only by the mouth when the nasal passage is obstructed by the presence of adenoids.
4. Both physical and mental development may be retarded.
5. Tonsillar abscesses or recurrent inflammation of the tonsils is apt to occur.
6. Last but not least, one frequently comes across Hypertrophic Rhinitis.

In coming to a decision as to the necessity or otherwise for operation, one must not forget that children with enlarged tonsils and adenoids appear to be especially susceptible to infectious diseases, such as, Scarlet Fever.

On one point I hold a very strong opinion, and that is that patients requiring operation for this condition should be treated as in-patients of General Hospitals both before and after the operation. It is little short of inhuman to discharge in public conveyances patients a few hours after they have been operated on. They ought to be retained in Hospital for at least 36 to 48 hours after the operation and special attention should be given to the necessity for rest, proper diet and the arrest of hæmorrhage. In the present congested state of our General Hospitals, however, this necessary precaution can seldom be followed out.

(c) *Lymphatic Glands*—

1. Submaxillary—	Number.	Percentage.
Palpably enlarged	1,418	17·5
Markedly ,,	34	·4
Suppurating	3	·03
Cicatrices	41	·5

	Number.	Percentage.
2. Cervical—		
Palpably enlarged	567	7·01
Markedly ,,	10	·1
Suppurating	—	—
Cicatrices	26	·3
Special cases	*19*	—
L. *External Eye Diseases*—		
Blepharitis	124	1·5
Conjunctivitis	18	·2
Corneal opacities	5	·06
Squint	127	1·5
Other diseases	53	·6
Special cases	*52*	—
M. *Visual Acuity*—		
Fair vision	333	6·1
Bad vision	262	4·8
Special cases	*122*	—

(The vision of entrants was not tested.)

N. *Ears*—		
Otorrhœa	41	·5
Wax	158	1·3
Other diseases	6	·06
Special cases	*18*	—

The presence of Middle Ear Disease, with its outward manifestation of Otorrhœa, was discovered in ·5 per cent. of the cases examined. In England, the incidence is slightly greater, being about ·7 per cent. The condition is serious and there is practically no tendency to spontaneous cure; the condition is more or less progressive; the hearing becomes affected; there is the risk of the mastoid becoming affected, with extension to the brain membranes, followed by fatal results. What are the causes of this condition and at what age is its incidence greatest? The usual causes of Otorrhœa are :—

1. It occurs as a sequela of such diseases as Scarlet Fever and Measles. Here one ought to stress the point that mothers in this County regard Measles as a necessary and harmless evil. It is not so. There is no doubt that over 80 per cent. of cases of Measles are unattended by the family doctors, simply because mothers think they can treat this disease efficiently themselves. This is far from being the case. In every case of Measles the family doctor should be called in at the start, as this is one of the most prolific causes of infantile mortality. Although generally regarded as a "light" disease, it is not so. Its sequelæ are innumerable if the sufferers are treated improperly. It is followed by Broncho-pneumonia in many cases and by Otorrhœa and, if the former complication supervenes, the chances of recovery of the child are doubtful. "Running ears" is another complication, not fatal in itself at first and apparently causing little discomfort, but later in life, it causes considerable disability and even death.
2. Enlarged Tonsils and Adenoids cause Otitis Media and the condition is usually relieved by their removal.

3. Then again, septic teeth give rise to the condition.
4. Chronic Naso-pharyngeal catarrh, sometimes associated with adenoids, is a fertile cause of Middle Ear Disease.

How is this condition to be prevented or can it be prevented? There are definite lines that should be followed, but many cases of Otorrhœa occur before the child reaches school age. This is another disease which proves that the Scheme for the Medical Inspection and Treatment of School Children cannot be divorced from other preventive schemes, such as the Maternity Service and Child Welfare Scheme. Many of those children should be treated before they enter school. The chief means of prevention are:—

1. Careful supervision and treatment of children suffering from such zymotic diseases as Scarlet Fever and Measles.
2. The early treatment of oral sepsis and of catarrhal conditions of the naso-pharynx and mouth.

O. *Hearing*—	Number.	Percentage.
Slightly deaf	47	·5
Markedly ,,	5	·05
Special cases	*5*	—
P. *Speech*—		
Defective articulation	40	·4
Stammering	5	·06
Special cases	*8*	—
Q. *Mental Condition*—		
Backward	60	·7
Mentally Defective	8	·09
Special cases	*12*	—

Mental subnormality is a subject of such outstanding importance that discussion is with-held until such time as definite conclusions can be arrived at.

R. *Heart and Circulation*—	Number.	Percentage.
Acquired	49	·6
Congenital organic	8	·09
Functional	80	·9
Anæmia	164	2·01
Special cases	*34*	—
S. *Lungs*—		
Chronic Bronchitis	36	·4
Tuberculosis	5	·05
Suspected Tuberculosis	15	·1
Other diseases	41	·5
Special cases	*9*	—
T. *Nervous System*—		
Epilepsy	4	·04
Chorea (St. Vitus Dance)	2	·02
Paralysis	16	·19
Other diseases	3	·03
Special cases	*4*	—

	Number.		Percentage.
U. *Tuberculosis (Non-pulmonary)*—			
Glandular	5	...	·05
Bones and Joints	6	...	·06
Abdominal	1	...	·01
Skin	—	...	—
Other forms	2	...	·02
Special cases	*5*	...	—
V. *Rickets*—			
Slight Rickets	57	...	·7
Marked ,,	1	...	·01
W. *Deformities*—			
Congenital	35	...	·4
Acquired	12	...	·1
Special cases	*4*	...	—
X. Infectious and Contagious Diseases	79	...	·9
Special cases	*75*	...	—
Y. Other diseases and defects	137	...	1·6
Special cases	*46*	...	...

Special Schools and Classes.

There are as yet no special schools or classes in the County. It may be necessary in the near future to institute special classes at such centres as Peterhead and Fraserburgh for dull and backward children. The matter is meantime under the consideration of the Joint Consultative Committee.

Open-Air Schools.

There is only one open-air school in the County, namely, Millbank Public School, Cluny. This school was opened shortly before the War. It draws scholars from the immediate neighbourhood and does not cater for physically defective children.

The school is built on the most approved principles. It faces the south and is guarded from the west and north winds by trees. Unfortunately, the south aspect abuts on the public road and there is, in summer, a considerable amount of dust, while the passing motors distract the attention of the pupils. The front of the school is made of glass doors stretching from floor to roof, easily openable.

Such schools are undoubtedly ideal, but the climatic conditions of Aberdeenshire would not allow of their being widely adopted.

Arrangements for Physical and Personal Hygiene of Children.

The following constitute the Special Staff for giving Instruction in Physical Training :—

1. *Instructress*—Area 1—
   - Peterhead Academy—3 days per week.
   - Other schools in Peterhead Burgh (Central and North Schools)—1 day per week.
   - Landward schools in Peterhead Parish (for supervision only)—1 day per week.

2. *Instructress*—Area 2—
   - Fraserburgh Academy—3 days per week.
   - Other schools in Fraserburgh (Central and North Schools)—1 day per week.
   - Landward schools in Fraserburgh Area (for supervision only)—1 day per week.
3. *Instructress*—
   - Inverurie Academy—2 days per week.
   - Turriff Secondary School—2 days per week.
   - Kemnay Secondary School } —½ day each per week.
   - Kintore H.G. School }
4. *Instructress*—
   - Huntly Gordon School—3 days per week.
   - Insch H.G. School—1 day per week.
   - Fyvie H.G.P. School—1 day per week.
5. *Instructor*—
   - Craighton H.G. School—1½ hours per week.

The Physical Exercises of the Primary Schools and also of the Higher Grade Schools, so far as not provided for above are taken by the ordinary school staff.

None of the schools in the County have baths.

Arrangements for Feeding of Children.

In the statistical section, it will be seen that 405 or 4·94 per cent. of the children examined were below the average as regards nutrition. The three main causes of poor nutrition are :—

1. *Underfeeding.*—This in some cases can be traced to the drunken habits of parents, and when this is the case there is usually associated a dirty and verminous condition. Many cases are, however, due to actual poverty, unemployment of parents or low wages earned. The most pitiable type of case is where the father has been struck down with consumption and removed to a sanatorium, and his wife and children have to subsist on his Sickness or Disablement Benefit, augmented, in some instances, with parish relief. It is a noteworthy fact that tuberculous patients, in this area at least, are very loth to apply for this relief, and, however mistaken their attitude may be, one cannot help admiring them for their independence. Again, when the mother becomes affected with tuberculosis, the plight of the children is even more harrowing.

2. *Improper Feeding.*—This is largely due to laziness and ignorance on the part of parents. There seems to be a growing tendency to desert the national breakfast of porridge and milk for the more easily prepared and much less nourishing tea and bread. The latter diet is sadly lacking in the essential units of nourishment, vitamines, and is quite unsuitable for a growing child.

3. *Defective Assimilation of Food.*—This condition may arise from various causes, the two chief of which are septic conditions of the mouth and sleeping in badly ventilated rooms. Children who are huddled together in an unventilated room, breathing and re-breathing exhaled poisonous products, cannot be expected to have an appetite for breakfast.

It has not been possible for me to determine with accuracy the proportion of children—excluding those resident in the Burghs—who can get home for their mid-day meal, but I should place it approximately at 40 per cent. That means that 60 per cent. of the rural children have to be content with a "piece," which is usually unappetising and more or less "gobbled."

Under the Education (Scotland) Act, 1908, Section 3, Subsection 2, powers are given to Education Authorities to provide accommodation, apparatus, equipment and service for the preparation and supply of meals. No provision is, however, made for the supply of food, funds for which are usually obtained by whist drives, dances and the like. The provision of mid-day meals is in the hands of Local Committees.

In 1925, the Education Authority gave statutory assistance in the case of 34 schools.

Co-ordination with Public Health Service.

Co-ordination of the Medical Services in the County is complete as the Medical Officer of Health is the Chief Medical Officer of all the public health schemes, including the Scheme for the Medical Inspection and Treatment of School Children. Thus no scheme is bound up in a water-tight compartment, and, in the case of this particular Scheme, I think it will be acknowledged that the change is appreciated by the Medical Officers and will be for the ultimate good of the children.

Presence of Parents at Inspections.

In rural areas, parents do not readily attend at routine inspections, but this is no index that they do not realise the benefits that accrue to their children from the operation of the Scheme.

The percentage of parents present during the year under review was 7·6.

POSITION OF COUNTY DENTAL SCHEME IN 1925.

Provision for dental services to school children in the County of Aberdeen commenced in 1921. The number of areas throughout the country, in which adequate arrangements for dental treatment have been made, is comparatively small. Inspection and treatment of certain age groups must be undertaken, but what is equally important is the systematic yearly re-examination of all those children who have been previously dealt with. It cannot be denied that an incomplete Dental Scheme is not only unsatisfactory but is relatively extravagant, in that time spent on this work, if it is not consistently followed up, is largely wasted.

The number of cases treated is no criterion as to the efficiency of any Dental Scheme. What really does count is the amount of conservative treatment performed.

From experience gained in 1923, when, for six months, I acted as Chief School Medical Officer; from the advice given me by Dr. MacBean and by Mr. Chalmers, and from my own personal observations and study *quâ* Medical Officer of Health during the past nine months, I came to the conclusion that the time was opportune for a reconstruction of the Dental Services on progressive—and, undoubtedly, ultimately economic—lines, and with this end in view a special

Report on the Dental Services was presented. This Report, in abbreviated form, is given below :—

Report on Dental Treatment of School Children.

In January, 1921, the Education Authority, following on a Report by their Chief Medical Officer, appointed a whole-time dentist. In June of the same year, it was decided to employ six part-time dentists, who would have definite areas assigned to them, viz. :—Peterhead area, 2; Fraserburgh, Huntly, Inverurie, and Turriff areas, 1 each. The dentist who was to be employed on a part-time basis for Turriff area declined the terms offered and it was decided that this area should be covered partly by the whole-time dentist and partly by one of the part-time dentists.

This arrangement has continued down to the present, the staff now consisting of the following, viz. :—

(*a*) Whole-time, . .	Mr. J. Chalmers, L.D.S.
(*b*) Part-time—(1) .	Mr. W. Angus, L.D.S., Inverurie.
(2) .	Mr. G. Baxter, L.D.S., Peterhead.
(3) .	Mr. J. W. Mackay, L.D.S., Huntly.
(4) .	Mr. J. St. John Smith, L.D.S., Fraserburgh.
(5) .	Mr. A. C. Wallace, L.D.S., Peterhead.

Before discussing the relative work performed by the whole-time dentist and the part-time dentists, it would be well to study the lists of schools assigned to the several part-time dentists.

The total number of schools in the County is 238. The part-time dentists perform work in connection with 73 schools, with a school population of 10,620, while the whole-time dentist has under his supervision 165 schools, the school population of which is 15,889.

FREQUENCY OF INSPECTION AND TREATMENT BY DENTISTS.

The whole-time dentist's ideal is to inspect and treat the children in all the schools assigned to him at least once a year, but, owing to the large increase of "consents," this is now impossible.

The same ideal is not attained in the case of the part-time dentists. In some instances an interval of three years has occurred between the dentist's visits, and, unfortunately, it is extremely difficult to remedy this state of affairs as the scheme is worked at present. In one area, one of the schools has never yet been visited by the part-time dentist in whose area it is situated.

COMPARISON OF WORK PERFORMED BY SEVERAL DENTISTS.

Perusal of Appendix A will show the progress of dental work amongst County children since the inception of the scheme. The whole-time dentist last year examined twice as many cases as did all the part-time dentists; the former treated 1,626 children, as against 588 treated by the latter.

It is exceedingly gratifying that the percentage of those recommended for treatment and actually treated rose in the case of the whole-time dentist's work from 29·6 per cent. to 46·6 per cent., and, in the case of the part-time dentists, from 28 per cent. to 35·6 per cent.

COST OF DENTAL SERVICES.

The cost of the County Dental Services for the period from 16th May, 1922, to 15th May, 1925, is as follows :—

A.—Part-time Dentists.

	Fees.	Travelling Expenses.	Total.
1. Year to 15th May, 1923, . .	£334 0 11	£48 19 0	£382 19 11
2. Do. do. 1924, . .	371 16 2	42 8 10	414 5 0
3. Do. do. 1925, . .	404 1 0	37 2 6	441 3 6
	£1,109 18 1	128 10 4	1,238 8 5

Average, £412 per annum.

B.—Whole-time Dentist.

	Salary.	Travelling Expenses, &c.	Total.
1. Year to 15th May, 1923, . .	£460 0 0	£170 1 4	£630 1 4
2. Do. do. 1924, . .	460 0 0	98 10 4	558 10 4
3. Do. do. 1925, . .	426 14 8	140 16 7	567 11 3
	£1,346 14 8	409 8 3	1,756 2 11

Estimated average, £630 per annum.

It should be explained that during 1923-4 the whole-time dentist was unfit for duty for a considerable time, while in 1924-5 there was a short interval between the termination of Dr. M'Cullagh's engagement and the commencement of Mr. Chalmers's.

AVERAGE COST PER CASE TREATED.

Information has been obtained from the Scottish Board of Health as to the average cost per case *treated* in those areas where treatment was given.

In 1923-4, in the three burghs of Aberdeen, Edinburgh, and Glasgow, the average cost per case treated was 6s. 3d., and, in the Counties it was 7s. 6d. Of the three burghs, the lowest average figure was 4s. 11d. in Aberdeen, and the highest 8s. 2d. in Edinburgh. Among the Counties, the lowest averages were found in those in which comprehensive schemes were in operation, such as Lanarkshire and Renfrewshire, where the averages were 5s. 1d. and 6s. 8d. respectively. Aberdeenshire had the highest average with 17s. 9d. per case. The actual highest average was Nairn, but, as only 22 cases were treated, it ought not to be taken into account. In Appendix B, the cost of treatment per case is given for the year 1923-4 in those areas in Scotland in which school dentists were employed.

In the year 1924-5, the average cost per case treated in the County had fallen from 17s. 9d. to 9s. 1d. Some explanation is necessary in connection with this marked decrease in the cost. The reasons are two-fold. In the first place, the number of cases treated has been trebled. Secondly, when the whole-time dentist visits a one, two or three-teacher school, he inspects all pupils present, instead of only the 6 to 8-year-old group, and later treats all those consenting to treatment, irrespective of age.

In dealing thus with the average cost per case treated in different areas, it must be kept in view that the dentists in one area may be strongly in favour of conservative dentistry whereas in another they may favour extraction. It need hardly be pointed out that, generally speaking, several extractions can be performed in the same time as it takes to treat one child conservatively. If the numbers treated are large, the cost per case is correspondingly small. I am glad to say that, so far as I can ascertain, conservative treatment is the rule in this County.

Conclusions.

The dental scheme has now been in operation for over four years and one is warranted in surveying it from all points—not in a destructive but in a constructive spirit—for the purpose of arriving at a decision as to whether the Authority is getting value for its money and whether dentistry, and I would mention especially conservative dentistry, is being practised throughout the area on a uniform basis.

I wish particularly to refer to the employment of part-time dentists, and in this connection it is interesting to note the number of dentists employed by the several Education Authorities in Scotland as shown in Appendix C.

The part-time dentists are men with large practices and the treatment of dental caries in children is not always regarded by them as congenial work. They are practically independent officials. They are not under the control of the whole-time dentist, and they are under my control only to a very limited extent. For success in any dental scheme, it is essential that the individual members should form one team and pull together. Under the present system, team-work cannot be expected, and in consequence there is considerable loss of efficiency. There is no uniformity as regards the methods of examination or of treatment. In the circumstances comparative statistics of the work performed by the whole-time dentist and the part-time dentists are of little value, but, from data supplied in this report, a notable difference is shown in the amount of work performed by these respectively. This leads to the question of how the County Dental Service can be improved.

Recommendations.

I have no hesitation in recommending that another full-time dentist be appointed, in the interests of efficiency and ultimate economy.

Another whole-time dentist would not, however, take the place of the five part-time dentists, but he could overtake the areas covered by, say, three of them. If another whole-time dentist is appointed, I would suggest that he should be stationed in such a centre as Maud, and that two part-time dentists should be retained for the present, one at Huntly and one at Peterhead. The additional cost of this change, including salary, travelling expenses, and maintenance allowances, would be under £150.

I think that the time is opportune to bring forward this suggestion to re-cast the Dental Scheme because the importance of dental disease and treatment is gradually being realised by the public, and our efforts in this direction will fall short of the ideal unless we have one control and uniformity in examination, in treatment, and in compilation of statistics. Complete control can only be adequately obtained if all the officials are on a whole-time basis, and the scheme is progressing so rapidly that I may ultimately have to recommend that the services of all the part-time dentists be dispensed with in favour of whole-time officials.

These views do not imply anything derogatory either to the part-time dentists or their work, but, in the interests of efficient administration and treatment, I am of opinion that a change on the lines recommended above should be adopted.

There follows Table by Mr. J. Chalmers, School Dentist, showing the work performed during the year ended 31st July, 1925 :—

TABLE II.

Dental Report for Year ending 31st July, 1925.

INSPECTIONS.	Whole-time Dental Surgeon.		Part-time Dental Surgeons.	
	1923-1924.	1924-1925.	1923-1924.	1924-1925.
Number of schools visited	124	98	59	56
Number of children inspected	4,606	5,252	2,757	2,550
Number of children with sound teeth	837	1,764	612	902
Percentage with sound teeth	18·17 %	33·58 %	22·19 %	35·37 %
Number of cases where parents were notified	2,612	4,195	—	1,648
Number of consents received	27·06 %	43·72 %	—	37·7 %
TREATMENTS.				
Number of schools visited	59	80	51	45
Number of children treated	608	1,626	570	588
Number of children recommended	2,053	3,488	2,049	1,650
Percentage of recommended treated	29·61 %	46·62 %	28·01 %	35·64 %
Number of fillings	298	734	855	765
Number of teeth extracted	1,177	2,042	1,344	1,152
Number of anaesthetics administered	—	717	—	303
Number of special cases	61	341	—	—
Number of non-necessitous cases	270	1,006	—	292
Amount of fees received	£26 7 9	£48 1 11	£33 19 3	£72 3 6

The "consents" for dental treatment have increased from 29·61 per cent. to 46·62 per cent. and the "special" cases from 61 to 341. This increase means longer intervals between inspection visits, roughly eighteen months, which is unfortunate as much may happen through dental caries during this period.

Numerous parents have stated that they reluctantly had to refuse consenting to treatment owing to the fees charged. At present the charges made to parents are decided by the School Management Committees, but this work might be, with perhaps greater success and expedition, undertaken by the Head Teachers or by two members of the School Management Committees. There seems little doubt that, if some uniform system were adopted, say, charging 1s. per treatment, there would be an increase of at least 5 per cent. in the number of "consents."

During the year the whole-time dentist had to extract 779 permanent teeth. In the majority of cases conservative treatment had been refused on previous visits with the result that extraction was the only remedy.

Many parents omit to pay proper attention to the mouths of their children when they attain the age of 6 to 7 years, with the result that the first permanent molars are allowed to decay in the belief that they are temporary teeth which are to be replaced.

At Tarves Public School 101 children were treated out of 104 inspected. This is probably a record for dental treatment in rural schools.

DEFECTIVE VISION.

The following is the Report of the School Oculist on cases treated during the session 1924-1925 :—

Eye Treatment.

Centres Visited.	No. of Cases.
Aberdeen	86
Turriff	50
Huntly	67
Fraserburgh	198
Maud	27
Strichen	26
Peterhead	204
Oldmeldrum	28
Inverurie	64
Kintore	22
Insch	15
Ellon (including 7 Boddam cases)	41
Kemnay	23
Alford	21
Aboyne	17
Ballater and Torphins	28
Total number of cases	917

Glasses prescribed	736
Glasses satisfactory or unnecessary	149
Corneal Nebulæ	8
Blepharitis	3
Conjunctivitis	12
Strumous Ophthalmia	4
Old Iritis	1
Epiphora	1
Lamellar Cataract	1
Aphakia (Traumatic)	2
	917

In those children for whom glasses were ordered, the various refractive errors occurred in the following proportions :—

Hypermetropic	289	39·26 %
Hypermetropic Astigmatism	207	28·10 %
Myopia	78	10·59 %
Myopic Astigmatism	65	8·83 %
Mixed Astigmatism	97	13·17 %
Total	736	

Convergent Strabismus occurred in 16·6 per cent. of the cases of Hypermetropia, and in 3·38 per cent. of the cases of Hypermetropic Astigmatism. A child of seven years of age had hypermetropia of 10 dioptres in each eye. Another child of ten had myopia of 15 dioptres in one eye, and 17 in the other. A case was seen with one eye normal, and the other with myopia of 15 dioptres and amblyopic.

Among the refraction cases there occurred the following affections:—Congenital lens opacities, lamellar cataract, partial albinism, blepharitis, partial post-neuritic atrophy, nystagmus (2 cases), corneal nebulæ (3 cases), adherent leucoma (2 cases), sequelæ of ophthalmia neonatorum.

The number of cases treated this year exceeded by 281 the total of last year.

In one or two cases, parents objected to the use of glasses for their children, but in every instance where optical correction is considered necessary, representations to that effect are made, usually with a successful result.

In this connection, I have to thank the clerical staff for carefully following up the issue of prescriptions in order to ascertain if the glasses ordered have been obtained.

The arrangements at the various centres were satisfactory, and the nurses, save in one or two instances of unavoidable absence, gave valuable assistance.

APPENDIX A.

	WHOLE-TIME DENTAL SURGEON.				PART-TIME DENTAL SURGEONS.			
	1921-2	1922-3	1923-4	1924-5	1921-2	1922-3	1923-4	1924-5
INSPECTION.								
1. Number of schools visited	134	159	124	98	49	75	59	56
2. Number of children inspected	2,532	4,312	4,606	5,252	2,127	2,379	2,757	2,550
3. Percentage of "consents"	—	23·8 %	27 %	43·7 %	—	—	—	37·7 %
TREATMENT.								
1. Number of schools visited	78	99	59	80	13	52	51	45
2. Number of children recommended	1,441	2,576	2,053	3,488	—	2,209	2,049	1,650
3. Number of children treated	538	758	608	1,626	164	498	570	588
4. Percentage of recommended treated	34·6 %	29·4 %	29·6 %	46·6 %	—	22·5 %	28 %	35·6 %

Appendix B.

Cost of Treatment, 1923-1924.

	Number treated.	Total Cost.	Cost per case.
Aberdeen Burgh	4928	£1219 0 0	4/11
Dundee Burgh	—	—	—
Edinburgh Burgh	3976	1620 0 0	8/2
Glasgow Burgh	5500 (est.)	1662 14 3	6/-
Aberdeenshire	1178	1048 0 0	17/9
Ayr	2065	953 4 11	9/2
Banff	763	510 0 0	13/4
Caithness	313	62 0 0	3/11
Clackmannan	400	102 6 3	5/1
Dumfries	1229	436 6 11	7/1
Dunfermline	1500 (est.)	658 0 0	8/9
Fife	1500 (est.)	860 0 0	11/5
Forfar	2582	718 0 0	11/8
Kincardine	546	389 0 0	14/3
Kirkcudbright	1870	698 0 0	7/5
Lanark	12583	3171 0 0	5/1
Linlithgow	584	184 0 0	6/3
Midlothian and Peebles	2960	830 0 0	5/1
Moray	26	12 12 6	9/8
Nairn	22	21 2 9	19/-
Perth	1675	715 0 0	8/6
Renfrewshire	3510	1180 0 0	6/8
Stirling	2249	624 0 0	5/6
Sutherland	869	161 15 0	3/8

Appendix C.

Number of School Dentists, whole-time and part-time, employed in Scotland, 1923-24.

Authority.	Whole-time.	Part-time.	Authority.	Whole-time.	Part-time.
Aberdeen Burgh	2	—	Inverness	1	1
Dundee Burgh	2	—	Kincardine	—	2
Edinburgh Burgh	—	6	Kinross	—	1
Glasgow Burgh	3	3	Kirkcudbright	1	—
Aberdeen	1	5	Lanark	6	—
Argyll	—	2	Midlothian and Peebles	1	—
Ayr	2	—	Nairn	—	2
Banff	1	—	Perth	1	1
Berwick	—	—	Renfrew	4	—
Bute	—	1	Ross and Cromarty	—	2
Caithness	—	3	Roxburgh	1	—
Clackmannan	—	2	Stirling	2	1
Dumbarton	3	1	Sutherland	—	1
Dumfries	1	—	West Lothian (appointed Sept., 1925)	1	—
East Lothian	—	5			
Fife	3	—	Wigtown (appointed March, 1925)	1	—
Forfar	1	1			

SECTION V.

Nursing Services.

NURSING SERVICES.

History of the County Nursing Association.

In the end of 1913 it was suggested at a Conference between representatives of the Public Health Sub-Committee of the County Council, the County Insurance Sanatorium Sub-Committee and the District Nursing Associations, that a County Nursing Association should be formed, consisting of representatives of several public bodies which would be empowered to negotiate with the County Council, the Secondary Education Committee, the Insurance Committee and Parish Councils, regarding the formation of District Nursing Associations and the appointment of nurses in areas where no nursing facilities existed, and *inter alia* to determine what financial assistance should be given by the several bodies to the District Nursing Associations. Owing to the War, the formation of the County Nursing Association was deferred, but, in 1921, it assumed definite form. There were then 24 District Nursing Associations which became affiliated with the County Nursing Association.

To-day there are 34 District Nursing Associations, affiliated with the County Nursing Association. Each of these Associations employs one nurse, with the exception of Stoneywood District Nursing Association which employs two nurses. The functions of the County Nursing Association are largely advisory; it has practically no funds to administer apart from the payments made through the Association to the District Nursing Associations in respect of the nurses' services under the several Public Health Schemes.

Of the 35 District Nurses, 29 are Jubilee Nurses, while 6 are non-Jubilee Nurses. The Associations employing Jubilee Nurses are further affiliated with Queen Victoria's Jubilee Institute for Nurses, Edinburgh. There are distinct advantages to Associations in their employing Jubilee Nurses, and one of these is that the Jubilee Institute sends periodically to the various areas Inspectors who scrutinise the work performed by the nurses and give valuable hints as to the keeping of records and the nursing of special cases. In addition to this outside source of supervision, the Scottish Board of Health also sends a Medical Inspector to examine the work performed by the nurses and to ascertain the extent to which their services are being utilised for statutory purposes. It must be clearly understood, however, that the District Nurse is, in each case, entirely under the control of the District Nursing Association.

Comparatively recently, Health Visitors' Certificates were issued by the Scottish Board of Health as a result of examination to the more newly qualified nurses, and without examination in the case of nurses established for some time who could produce evidence to show that they had for a definite period performed public health work to the satisfaction of the Public Health Officials. Of the 35 District Nurses, 17 possess the full Health Visitor's Certificate and 10 the Health Visitor's Probation Certificate. Eight possess neither of these Certificates.

Official Duties of the Nurses.

The nurses employed by the various District Nursing Associations undertake duties under the three following statutory schemes, viz., the Maternity Service and Child Welfare Scheme, the Tuberculosis Scheme and the Scheme for the Medical Inspection and Treatment of School Children.

Let us first consider the work performed under the Maternity Service and Child Welfare Scheme. Whenever a birth is notified, and where an intimation is given by the person notifying the birth that the services of the District Nurse will be acceptable, the Medical Officer of Health communicates with the District Nurse and asks her to visit the mother and child. An idea as to the necessary frequency of visitation is contained in the following letter which has been distributed amongst all the District Nurses :—

> "In connection with the Record Cards which I recently sent you to be filled up after you have visited infants, I would now suggest that these cards should be retained until the child reaches the age of 5 years, even although at the end of six months, the child is apparently normal. So far as you can find time, your visits should be of the following frequency :—
>
> (1) During the first ten days—ordinary visitation.
> (2) Two visits during the first month.
> (3) Thereafter, if child is healthy, visit every six weeks, until the end of the first year.
> (4) During second and third years—visitation every quarter.
> (5) During fourth and fifth years—visitation twice yearly.
>
> In regard to cases in outlying districts, it will be very difficult for you to carry out these suggestions, but our aim is that, where possible, complete records of the child should be kept from birth until the child attains school age.
>
> In cases where you have not attended the mother and child at birth, in company with the doctor, it would be advisable for you not to make a visit until the doctor has ceased to attend, which usually occurs about the tenth day. Then, again, should a private nurse be in attendance on the mother, it would certainly not be advisable for you to visit until this nurse has left."

With regard to the Scheme for the Medical Inspection and Treatment of School Children, the duties have been defined in detail in that section of the Report dealing with school work.

The nurses' services in connection with the Tuberculosis Scheme are also much appreciated. She visits cases who are receiving domiciliary treatment and accompanies cases to and from institutions. Under this Scheme the nurses perform most valuable work; they encourage patients and advise them how to follow out the necessary lines of treatment; they impress on them the value of plenty of fresh air and of leading well-regulated lives.

Comparison of Work Performed by Individual Nurses.

In the accompanying Table, details are given as to the work performed by the several nurses, under the three statutory schemes, as compared with their general nursing work. Corresponding percentages are given for 1924.

DISTRICT NURSING ASSOCIATIONS.	HOURS SPENT ON				TOTAL.
	Maternity Work.	Tuberculosis Work.	School Work.	All other Work.	
Aboyne,	870¾	45	104¼	1,477¾	2,497¾
Alford,	170	50	159½	1,429	1,808½
Ballater,	865	116	52½	1,809½	2,843
Banchory,	394¼	43	20¾	1,610	2,068
Braemar,	204¼	113¼	39	1,653¾	2,010¼
Cairnie and District,	188½	38¾	58¼	1,025	1,310½
Central Garioch,	991¼	52	128	985¼	2,156½
Crathie,	297	93½	71¼	1,352	1,813¾
Cromar,	783	66	67	726	1,642
Cruden,	1,011½	16¾	146½	923	2,097¾
Cults,	442½	72¼	120½	1,262½	1,897¾
Drumblade, Forgue, and Ythanwells,	488	64	125	850	1,527
Dunecht,	348	42	142	2,385	2,917
Ellon,	670½	21½	145½	2,139½	2,977
Finzean,	270	76¼	28	312¼	686½
Fyvie,	773	354	180½	708	2,015½
Glass and Cabrach,	607	10¼	52	1,550	2,219¼
Huntly,	241¼	49	262	1,324	1,876¼
Insch,	842	92¾	117¾	1,139	2,191½
Inverurie,	713½	114½	303½	912½	2,044
Kemnay, Monymusk, and District,	438	46	124¼	334	942¼
Kintore, Fintray, and Kinellar,	757	87	201	1,415	2,460
Maud,	482¼	51½	63	2,158	2,754¾
Methlick,	518	95	116½	1,384	2,113½
Monquhitter,	637	64½	207½	1,587	2,496
Newmachar,	741½	49	114½	1,682¼	2,587¼
Oldmeldrum,	812	165	208½	1,422	2,607½
Stoneywood (Bucksburn),	578½	155½	268	1,354½	2,356½
Do. (Dyce),	469	80	166½	1,301	2.016½
Strathdon,	2,774	99	173	482	3,528
Strichen,	805	44	128	1,048¼	2,025¼
Tarves,	817½	22½	191¼	1,423	2,454¼
Turriff,	468	36	249½	1,651	2,404½
Tyrie and New Pitsligo,	250	126	360¾	2,019¾	2,756½
Udny and Foveran,	1,292½	242	186½	737¾	2,458¾
Totals,	23,011½	2,893¾	5,082½	45,573½	76,561¼
Percentages,	30·1	3·8	6·6	59·5	100
Corresponding percentages for 1924,	32·5	7·6	4·4	55·5	100

It will thus be seen that general nursing work occupied practically 60 per cent. of the nurses' time, while 30 per cent. was spent on maternity work and 10 per cent. on school and tuberculosis work. As compared with the 1924 figures, we find that much more school work has been done by nurses, but less work under the Tuberculosis Scheme.

Financial Arrangements.

In respect of the statutory services, each District Nursing Association receives £40 under the Maternity Service and Child Welfare Scheme, £20 under the Tuberculosis Scheme and £20 under the Scheme for the Medical Inspection and Treatment of School Children. A suggestion has come from the Scottish Board of Health that instead of these stereotyped sums, grants should vary according to the existing financial condition of the Association. It is very doubtful whether such an arrangement would meantime be favourably received by the District Nursing Associations, as only in a few cases are the financial resources in a flourishing condition.

Future of the Scheme.

We have not yet a comprehensive nursing service in the County and this will never be the case until there is a complete network of nurses. At present the area covered is slightly over five-eighths of the whole County, and, in order to have a complete service, approximately other fifteen nurses would be required. As an alternative to this large number of additional nurses, one might consider the completion of the nursing needs of the County by providing more suitable methods of transport for the nurses. Several of the nurses have motor bicycles, but, in the more rural areas, transport of this kind is not always satisfactory. Most of the nurses are allowed by their Associations to hire motor cars in cases of emergency or when the weather is very inclement.

Compared with other rural areas, Aberdeenshire is relatively well equipped as regards its nursing services, and an extension of these services can only take place gradually and must proceed side by side with the general growth of the Public Health Services.

SECTION VI.

Venereal Diseases Services.

VENEREAL DISEASES SERVICES.

During the Great War, there was an increasing wave of Venereal Diseases and this led to the introduction of the Public Health (Venereal Diseases) Regulations (Scotland), 1916, whereby Local Authorities were empowered to frame schemes for the prevention, diagnosis and treatment of these diseases. As a matter of fact, practically all Schemes meantime deal essentially with the diagnosis and treatment of these diseases, the preventive side being entirely by propagandism and by instructional literature.

In 1919, a Joint Scheme was prepared to embrace the City of Aberdeen and the North-Eastern Counties, and this was finally approved in May, 1919, by the Local Government Board (now the Scottish Board of Health). Later, the Counties of Zetland and Orkney joined the Scheme which is here reproduced :—

Joint Scheme for Aberdeen City and the North-Eastern Counties.

1. The Scheme to be available for the Town Council or Local Authority of the City of Aberdeen (hereinafter referred to as the Town Council) and the Local Authorities within the Counties of Aberdeen, Banff, Kincardine, Elgin, and Nairn (hereinafter referred to as "the Participating Authorities"), in enabling them to meet, or to assist in meeting, for their respective areas, the requirements under the Public Health (Venereal Diseases) Regulations (Scotland), 1916.

2. The Scheme to be provisional and tentative, and to be terminable on six months' notice from any of the Local Authorities concerned, or from the Directors of the Aberdeen Royal Infirmary.

3. The Scheme not to prevent any of the Local Authorities making, if it so desires, additional arrangements for its own area—it being understood that if such arrangements are approved by the Local Government Board, the Local Authority will be entitled to make a separate claim for them against the Government Grant.

4. The Scheme to embrace :—

(*a*) The provision of facilities at the Aberdeen Royal Infirmary for the treatment, within the special wards of the out-patient department of the Infirmary, in so far as the present accommodation will allow, of the early and more infectious cases of Venereal Disease from within the City of Aberdeen and the areas of the other Local Authorities participating in the Scheme.

(*b*) The supply of such special remedies as the Local Government Board may approve for the treatment of all Venereal cases within the areas concerned, and the loan, when required, of special apparatus, for treatment purposes, to medical practitioners or approved medical institutions.

(*c*) The provision, in exceptional cases, to be approved previously by the Medical Officer of Health of the area concerned, of medical consultations or other skilled medical and nursing assistance in domiciliary treatment.

(*d*) The provision of bacteriological services for the diagnosis of cases of Venereal Disease and for ascertaining their progress, whether the cases are being treated privately or in medical institutions.

(*e*) Any joint action in propagandism that may be considered desirable.

5. The Town Council to be empowered to enter into, and adjust the terms of, an arrangement with the Directors of the Aberdeen Royal Infirmary for the required services at the Infirmary, and also to enter similarly into an arrangement with the Directors, or with other parties, for the necessary bacteriological services under the Scheme, on the understanding that the terms of the arrangements will be such as to enable the Town Council to convey on an equitable financial basis a reasonable share in these services to the Participating Authorities, and that the Town Council undertake to convey such share. (See Appendix 1.)

6. The financial management and general administration of the arrangements under the Scheme to be undertaken by the Town Council on the understanding :—

(*a*) That each Participating Authority will have full control of the arrangements within its own area; and

(*b*) That the admission of patients to the special Venereal wards of the Infirmary, and to other clinical services at the Infirmary, as also the character and extent of the treatment, shall, subject to the control of the Directors of the Infirmary and to such regulations as the Directors may from time to time make, be in the hands of the chief clinical officer or officers of the Infirmary, acting, in so far as may be required, in consultation with the Medical Officer of Health of the area to which the patient belongs.

7. The basis and terms of the financial arrangement between the Participating Authorities and the Town Council for the Infirmary services and other general services required under the Scheme to be as indicated in the appended allocation of expenditure (Appendix II.), but such terms to be open, in any special case, to mutual adjustment or variation as between the Town Council, or its Venereal Diseases Sub-Committee, and the Participating Authority, provided that such adjustment or variation does not affect the payments to be made by the other Participating Authorities.

8. Each Participating Authority from within whose area any patients may have received treatment in the Venereal clinics or wards of the Royal Infirmary since 1st September, 1917, or for whom bacteriological examinations have been made, to be expected, although not obliged, to make an equitable payment for these services to the Town Council, who will in turn, for such Authorities as also for themselves, discharge the relative obligation to the Infirmary Directors, or to the bacteriologist—it being understood that the Local Government Board will allow such payment to rank for claim on the Government Grant.

9. A small Consultative Committee to be appointed for consultation with the Venereal Diseases Sub-Committee of the Town Council in any matter

regarding which, it may appear, either to the Consultative Committee or to the Council's Sub-Committee, that a conference could usefully be held. The Consultative Committee to consist of two members representing the County of Aberdeen and one member representing each of the other Counties taking part in the Scheme, the member or members representing each County to be chosen by the Chairmen of the Participating Authorities within the County, and such arrangements to be made for the appointment of such members, whether by meeting or by letter, as may be determined by the Convener of the County. The Consultative Committee and the Town Council's Sub-Committee, if a majority within each of the two bodies so determine, to have power to resolve themselves for any common and specified purpose into a Joint Committee to be known as the Joint Venereal Diseases Committee, and such Joint Committee to have power, *inter alia*, to co-opt two additional members selected from the medical profession within the City and the areas of the Participating Authorities, and also to appoint, more especially for propaganda purposes, a Sub-Committee which may be composed, in part, of persons other than members of the Joint Venereal Diseases Committee.

10. The Town Council to undertake to supply to each Participating Authority for the twelve months ending 15th May in each year—being the Scheme year as recognised by the Local Government Board for the purposes of the Government Grant—a brief statement of (*a*) the whole services rendered under the Joint Scheme, and (*b*) of the part of the services applicable to the said Participating Authority; as also a statement of (*c*) the whole expenditure incurred during the year, with (*d*) a note of the sum due by the Local Authority to the Town Council; as also (*e*) an estimate of the whole expenditure under the Scheme for the ensuing year.

11. Any dispute or difference arising between the Town Council and any of the Participating Authorities, or among such Authorities, if incapable of being mutually settled, to be referred to the Local Government Board, whose decision shall be final and binding on the parties concerned.

It is further suggested that, as part of the arrangements which each Local Authority or combination of Local Authorities may undertake independently of the Joint Scheme, provision for the following purposes may advantageously be made :—

(*a*) That, in order to encourage medical practitioners, especially in districts outside the City of Aberdeen, to take a sample of blood in any suspected case of Syphilis, in which a laboratory examination of the blood is desirable for diagnostic or other purposes, a fee of seven shillings and sixpence be paid to the medical attendant for the collection of each such sample, if, in the opinion of the bacteriologist under the Scheme, or of the Medical Officer of Health of the District in which the patient resides, the collection has been properly made according to the directions issued under the Scheme. (Although such payment is not permitted under the Venereal Diseases Regulations to rank for claim against the Government Grant, the Local Government Board will not take objection to its being met by the Local Authority out of its Public Health Assessment.)

(*b*) That, in order to assist in meeting the expenses of any medical practitioner within the area of any Participating Authority who desires to visit the Venereal Treatment Centre at the Aberdeen Royal Infirmary for the purpose of receiving practical instruction and experience in the taking of blood specimens and in the intravenous injection of Salvarsan or its substitutes, the railway fare of such practitioner be paid, provided that in each case the Medical Officer of Health of the District in which the practitioner resides has previously approved. (The Local Government Board will allow such expenditure to rank against the Government Grant.)

(*c*) That, in order to facilitate the procuring for laboratory examination of the bodies of still-born children, which are known frequently to be infected with Syphilis, the Local Authority of the area concerned undertake the burial of the body of such a child in the event of its being handed over to the medical attendant, or the Medical Officer of Health, or the bacteriologist, for such examination. (The Local Government Board will allow the expenses to rank against the Government Grant.)

APPENDIX I.

Venereal Diseases Joint Scheme.

ARRANGEMENT BETWEEN THE TOWN COUNCIL OF ABERDEEN AND THE DIRECTORS OF THE ROYAL INFIRMARY, ABERDEEN.

1. The Infirmary Directors—

(*a*) To continue the existing facilities within the Infirmary for the treatment of Venereal cases, and to provide suitable treatment, either in-patient or out-patient, in so far as they conveniently can, within the accommodation at present in use for such purposes, for Venereal cases from the City of Aberdeen and from the areas of such Local Authorities (hereinafter called the Participating Authorities) in the North-Eastern Counties of Scotland (viz., Aberdeen, Kincardine, Banff, Elgin and Nairn) as may, under arrangement with the Aberdeen Town Council (hereinafter referred to as the Town Council), participate in such facilities—the Special Clinical Staff of the Infirmary, subject to the control of the Directors and to such regulations as the Directors may from time to time make, to have full discretion as to the character and extent of the treatment, and also as to refusal of treatment for disciplinary or other sufficient reason.

(*b*) To report to the Town Council, for the approval of the Local Government Board, the names and qualifications and remuneration of the staff employed by the Directors for the purposes of the Scheme.

(*c*) To give instructions for records of the cases treated being duly kept, as prescribed by the Local Government Board.

(*d*) To afford reasonable facilities to medical practitioners and senior medical students in obtaining instruction in the diagnosis and treatment of the Venereal cases dealt with in the Infirmary.

(*e*) To cause to be supplied such information as may be asked for by the Medical Officer of Health of the Town Council or of any Participating Authority, concerning cases from the relative area of the Town Council or the Participating Authority, or such information as may be required by the Medical Officer of Health of the Town Council as to the general work of the Scheme under the arrangement with the Directors, provided always that the information shall, in so far as it concerns individual cases, be treated as confidential.

2. The Town Council to be responsible to the Directors of the Infirmary for the payment of—

(*a*) Three shillings a day for each case from within the City of Aberdeen or the areas of the Participating Authorities during the period of the treatment of the case within the Venereal wards.

(*b*) Ten pounds a calendar month towards the treatment of cases in the out-patient department, including cost of dressings and minor drugs.

(*c*) A sum, not exceeding twenty-five pounds a calendar month, for the services of the nursing staff, for medical or student assistance to the clinical staff, and for dispensary and clerical assistance.

3. The Town Council to refund monthly to the Directors—

(*a*) The cost of special drugs (limited meanwhile to Salvarsan and its substitutes) used in the treatment of Venereal cases at the Infirmary, and of such special drugs supplied from the Infirmary, with the approval of the Local Authority of the area concerned or of its Medical Officer of Health, to other medical institutions or to medical practitioners for the treatment of cases within such area.

(*b*) The cost of special apparatus required in the treatment of Venereal cases at the Infirmary, or for loan in the treatment of such cases in other medical institutions or by medical practitioners.

(*c*) All outlays for stationery, printing, and postages incurred by the Directors in connection with the Scheme.

4. The Town Council to place or hold at the disposal of the Directors, if and when required by them, a sum, not exceeding twenty-five pounds a calendar month, towards the remuneration of the medical and surgical staff.

5. The Town Council to pay to the Directors a sum, not exceeding twenty-five pounds a calendar month, for the whole bacteriological and laboratory services required in the Infirmary or by other medical institutions or by medical practitioners or by the Medical Officers of Health of the Town Council and the Participating Authorities in connection with the Scheme, so soon as the Directors are able conveniently to provide the said services—such sum to cover, in addition to the salary or part salary of a competent bacteriologist, all outlays, except the cost of the outfits and apparatus for collecting and transmitting specimens, and any allowance to medical practitioners in lieu of postages. The bacteriologist to keep such records as may be required by the Local Government Board, and to give such instruction and reasonable assistance in taking samples at the Infirmary as may be required.

6. The Town Council to pay to the Directors, under such conditions as may be approved by the Local Government Board, a sum of five hundred pounds towards providing and equipping a laboratory for carrying out the required bacteriological services.

7. The Town Council to pay, through the Directors, such remuneration as may be approved by the Local Government Board to such member or members of the clinical and bacteriological staff as may undertake, with the sanction of the Directors and the recognition of the University of Aberdeen, to give instruction to medical students and medical practitioners in the diagnosis and treatment of Venereal Diseases, provided that such instruction is in accordance with the requirements of the University in respect of its character and extent, and that no fee is exigible from the students or practitioners for such instruction.

8. The arrangements between the Infirmary Directors and the Town Council to be terminable on six months' notice from either side.

APPENDIX II.

Venereal Diseases Joint Scheme.

Allocation of Expenditure.

1. Each Local Authority itself to pay the travelling expenses of its own officers in connection with the administration and operation of the Joint Scheme; as also the necessary travelling expenses in connection with the treatment of any patient ordinarily resident in its area, in so far as such expenses have been previously sanctioned under the Venereal Diseases Regulations by the Medical Officer of Health of the Local Authority.

2. The Town Council to disburse (except in such cases as it may be otherwise mutually arranged between the Town Council and the Participating Authority) all other expenditure connected with the Joint Scheme, on the understanding that each Participating Authority will, after the close of each Scheme year, refund to the Town Council:—

(A) The whole of the payments for the following purposes:—

(*a*) Medical consultations or other skilled medical and nursing assistance in domiciliary treatment provided under the Scheme for patients within the area of the Participating Authority.

(*b*) The maintenance in the Venereal wards of the Aberdeen Royal Infirmary of any patient from within the area of the Participating Authority—such payment to be at the rate of 3s. per day.

(B) A proportion of the payments to the Directors of the Aberdeen Royal Infirmary for the following purposes—the proportion being reckoned on Basis I. of Population as stated below:—

(*a*) Rent of out-patient department, including cost of dressings and minor drugs.

(*b*) Salaries of medical and nursing staff for in- and out-patient treatment, less a sum of twenty pounds payable by the Town Council for domiciliary services, within the City, of the nurses and junior medical staff.

(*c*) Special drugs.

(*d*) Apparatus required in connection with treatment, or for loan for treatment, whether the treatment is being given in the Infirmary or other medical institution, or in private medical practice.

(C) A proportion of the payments for the following purposes, the proportion being reckoned on Basis II. of Population as stated below :—

(*a*) General administrative and clerical services.

(*b*) Printing and postages.

(*c*) Bacteriological services (including contribution towards providing and equipping laboratory).

(*d*) Instruction to students and practitioners.

(*e*) Publicity arrangements and propaganda, &c.

3. The Town Council to be entitled to recover from the Participating Authorities an equitable proportion of the expenditure already incurred by the Council for such stocks of drugs, apparatus, and printed material as may remain available for the work of the Joint Scheme at the time of the Scheme coming into operation.

The following Tables give particulars of the cases treated during 1925 at the Treatment Centre at Aberdeen Royal Infirmary :—

Table I.

Total Number of New Cases.

Home Residence.	Total No.	Syphilis.		Gonorrhoea.		Soft Chancre.		Mixed Infections.		Conditions other than Venereal.	
		M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Aberdeen City . .	433	44	35	237	38	3	—	1	1	48	26
County of—											
Aberdeen . .	94	13	15	29	9	—	—	—	—	16	12
Banff . . .	13	3	1	2	1	—	—	—	—	4	2
Moray . . .	11	2	4	3	1	—	—	—	—	1	—
Kincardine . .	21	3	4	9	1	—	—	—	—	3	1
Nairn . . .	4	1	1	1	—	—	—	—	—	1	—
Orkney . .	4	3	1	—	—	—	—	—	—	—	—
Shetland . .	1	—	—	1	—	—	—	—	—	—	—
Scotland (other) .	22	3	—	9	1	—	—	3	—	5	1
England . . .	12	4	—	6	—	—	—	—	—	2	—
Foreign . . .	16	9	—	3	—	—	—	1	—	3	—
Totals . . .	631	85	61	300	51	3	—	5	1	83	42

TABLE II.

In-patient Cases Admitted during the Year.

Home Residence.	Total No.	Syphilis.		Gonorrhoea.		Soft Chancre.		Mixed Infections.		Conditions other than Veneral.	
		M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Aberdeen City . .	42	6	4	17	10	—	—	—	5	—	—
County of—											
Aberdeen . .	16	5	2	7	2	—	—	—	—	—	—
Banff . . .	1	—	—	1	—	—	—	—	—	—	—
Moray . . .	15	2	6	2	2	—	—	1	2	—	—
Kincardine . .	—	—	—	—	—	—	—	—	—	—	—
Nairn . . .	2	1	1	—	—	—	—	—	—	—	—
Orkney . . .	—	—	—	—	—	—	—	—	—	—	—
Shetland . .	—	—	—	—	—	—	—	—	—	—	—
Scotland (other) .	6	3	—	1	1	—	—	1	—	—	—
England . . .	1	—	—	—	—	—	—	—	—	1	—
Foreign . . .	1	—	—	1	—	—	—	—	—	—	—
Totals . . .	84	17	13	29	15	—	—	2	7	1	—

TABLE III.

Number of Attendances at Infirmary.

Home Residence.	Total No.	Syphilis.		Gonorrhoea.		Soft Chancre.		Mixed Infections.		Conditions other than Venereal.	
		M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Aberdeen City .	25,919	2,709	3,112	13,135	3,962	16	—	1,815	1,000	83	87
County of—											
Aberdeen .	2,590	547	533	1,030	139	—	—	184	111	30	16
Banff . .	406	42	36	283	3	—	—	28	3	10	1
Moray . .	46	3	19	17	2	—	—	1	3	1	—
Kincardine .	501	72	65	217	64	—	—	35	45	2	1
Nairn . .	32	10	1	18	—	—	—	—	—	3	—
Orkney . .	23	11	6	1	—	—	—	—	5	—	—
Shetland .	1	—	—	1	—	—	—	—	—	—	—
Scotland (other)	159	16	1	126	1	—	—	8	—	6	1
England . .	39	6	—	31	—	—	—	—	—	2	—
Foreign . .	27	15	—	8	—	—	—	1	—	3	—
Totals . .	29,743	3,431	3,773	14,867	4,171	16	—	2,072	1,167	140	106

TABLE IV.

Special Drugs for Syphilis—Doses of Salvarsan or Substitutes.

The Doses supplied to Institutions (other than the Royal Infirmary) and to Private Practitioners were distributed as follows:—

Administrative Area.	Institutions.		Private Practitioners.	
	No. of Institutions.	No. of Doses.	No of Practitioners.	No. of Doses.
Aberdeen City . . .	5	180	59	350
County of—				
Aberdeen	—	—	10	46
Banff	11	108	14	91
Moray	—	—	12	80
Kincardine . . .	—	—	—	—
Nairn	—	—	1	2
Orkney	—	—	—	—
Shetland	—	—	2	21
Scotland (other) . . .	—	—	1	4
Total	16	288	99	594

TABLE V.

Total Laboratory Examinations.

HOME RESIDENCE OF CASE.	Total.	Syphilis.				Gonorrhœa. Gonococcus.	
		Wassermann.		Spirochete.			
		Positive.	Negative.	Positive.	Negative.	Positive.	Negative.
Aberdeen City . .	6,418	1,134	2,942	7	113	393	1,829
County of—							
Aberdeen . . .	850	207	428	1	2	32	180
Banff	281	56	109	—	3	25	88
Moray . . .	85	28	34	1	2	2	18
Kincardine . . .	127	21	51	—	1	5	49
Nairn	11	1	4	—	—	1	5
Orkney . . .	14	5	5	—	—	—	4
Shetland . . .	49	6	43	—	—	—	—
Scotland (other) . .	21	6	3	—	—	3	9
England	4	—	—	—	—	—	4
Foreign	10	—	1	1	2	2	4
Total	7,870	1,464	3,620	10	123	463	2,190

TABLE V. (*a*).

Included in Table V. are the following numbers of specimens sent by private practitioners :—

Home Residence of Case.	Total.	Syphilis.				Gonorrhœa. Gonococcus.	
		Wasserman.		Spirochete.			
		Positive.	Negative.	Positive.	Negative.	Positive.	Negative.
Aberdeen City . .	425	56	153	1	10	49	156
County of—							
Aberdeen . .	63	16	37	—	—	1	9
Banff . . .	79	31	40	—	—	3	5
Moray . . .	25	8	16	—	—	—	1
Kincardine . .	1	—	—	—	—	—	1
Nairn . . .	1	—	1	—	—	—	—
Orkney . . .	6	1	5	—	—	—	—
Shetland . . .	49	6	43	—	—	—	—
Total . .	649	118	295	1	10	53	172

TABLE VI.

Number of Patients who, during the year, were deemed, after notices sent, to have failed to complete their course of treatment.

Home Residence of Case.	Total.	Syphilis.		Gonorrhœa.		Soft Chancre.		Mixed Infections.	
		M.	F.	M.	F.	M	F.	M.	F.
Aberdeen City	181	34	55	69	14	—	—	8	1
County of—									
Aberdeen . . .	24	8	5	6	—	—	—	—	5
Banff	3	1	1	1	—	—	—	—	—
Moray	4	3	—	—	—	—	—	—	1
Kincardine	3	—	—	2	—	—	—	1	—
Nairn	—	—	—	—	—	—	—	—	—
Orkney	—	—	—	—	—	—	—	—	—
Shetland . . , .	—	—	—	—	—	—	—	—	—
Scotland (other) . . .	1	—	—	1	—	—	—	—	—
Total	216	46	61	79	14	—	—	9	7

Under the Scheme, Dr. J. F. Christie, Skin Specialist, Aberdeen Royal Infirmary, acts as Chief Clinical Officer, and has the services of a full-time assistant. Dr. G. M. Duncan is the bacteriologist under the Scheme.

The following information has been sent to practitioners regarding the days and hours of attendance, &c. :—

Public Health (Venereal Diseases) Regulations (Scotland), 1916.

JOINT SCHEME FOR ABERDEEN CITY AND THE NORTH-EASTERN COUNTIES.

A.—Laboratory Examinations.

Outfits and apparatus, with directions, for taking samples of blood or exudates, are obtainable from the Clinical Pathologist, Royal Infirmary, Aberdeen. Men and women may be sent to the Clinical Pathologist at Out-patient Skin Department, Royal Infirmary, on Mondays, Tuesdays, and Wednesdays from 11 a.m. to 12·30 p.m.; or women may be sent on Tuesdays at 7 p.m., or men on Wednesdays at 7 p.m. (hours of evening clinics). If domiciliary assistance desired, communication to be made to the Clinical Pathologist.

Blood specimens for Wassermann Test are examined on Thursdays only, and

(1) Must reach Laboratory not later than Wednesday evening;
(2) Must be sent to Laboratory at latest within 24 hours after withdrawal; and
(3) Must not be more than 3 days old when examined.

B.—Clinical Arrangements.

In-patient accommodation at the Royal Infirmary is limited to 12 beds, and, accordingly, arrangements have to be made either through the Medical Officer of Health or directly with the Chief Medical Officer, V.D. Clinic, Royal Infirmary (Telephone No. Central 182), before cases are sent for In-patient treatment.

Out-patient Clinics are arranged as follows :—

Tuesdays, .	10 a.m.—12·30 p.m., 7 p.m.	Women and children.
Wednesdays, .	10 a.m.—12·30 p.m., 7 p.m.	Men.
Saturdays, .	10 a.m.—12·30 p.m. . .	Men and women.

Mondays and Fridays, men, women, and children are seen along with the Skin patients from 10 a.m. to 12·30 p.m.

Flushings for Men—Daily (Sunday excepted), at 5·30 p.m., or at such other times as may be arranged by the Chief Clinical Officer.

Flushings for Women—Time arranged by Sister with patients.

C.—Treatment.

Salvarsan or its substitutes, with loan of sterilised syringe, obtainable from Royal Infirmary, on application to Chief Clinical Officer, subject to approval of Medical Officer of Health, as required by Venereal Diseases Regulations, in case of first application by any medical practitioner. Supply of mercurial cream, for intramuscular injection, also obtainable, with loan of syringe.

D.—Consultations.

The services of the Clinical Officers are available for consultations with medical practitioners in special cases. Application for such services to be made through the Medical Officer of Health.

E.—Instructional Services.

Demonstrations of the most recent methods of diagnosis and treatment are given by the Bacteriological and Clinical Medical Officers at the Royal Infirmary. Practitioners are urged to keep in touch with these more recent developments, and the Medical Officer of Health will make arrangements for practitioners attending such demonstrations at times convenient to the practitioners concerned.

SECTION VII.

Bacteriological Services.

REPORT ON BACTERIOLOGICAL WORK

Performed in the County Bacteriological Laboratory during the year ending 31st December, 1925, by Dr. J. F. Tocher, Director of the County Bacteriological Laboratory.

I beg to report on the work performed in the Bacteriological Laboratory for the year ending 31st December, 1925. The total number of specimens received for examination during the year amounted to 3,316, of which 2,646 were received from the Public Health Department and 670 specimens were obtained under the Tuberculosis Scheme for the County.

Examinations made for the Public Health Department.

The number of specimens received for examination from Public Health sources was 2,646, the major portion of these specimens being swabs from suspected cases of sore throat for the presence of B. diphtheriæ. The number of swabs received during the year was 2,169 and included swabs from the general practitioners, hospitals and the County Medical Officer. From cases of "Enterica" or the typhoid group of diseases, 235 specimens of blood, fæces and urines were examined, several examinations being conducted on materials obtained from suspected "carriers" of the diseases. General bacteriological examinations were made on 242 specimens which comprised bloods, urines, fæces other than for B. typhosus, milks, waters, &c.

Examinations for Diphtheria.—The swabs examined for B. diphtheriæ numbering 2,169 were received from the following sources. From the County hospitals 1,031 swabs were examined, from general practitioners in the County 625 swabs and from the County Medical Officer and his staff 513 swabs.

Of the 1,031 hospital swabs, 165 were positive for B. diphtheriæ equivalent to 16 per cent. of the total hospital swabs received. The positive swabs consisted of 123 throat swabs, 41 nose swabs and 1 ear swab. Positive swabs were repeatedly obtained from the same case. A certain proportion of the 866 negative swabs were found to contain streptococci, while in a few cases Vincent's angina was noted.

General practitioners sent in 625 swabs for examination, of which 71 were positive for B. diphtheriæ or 11·3 per cent. The positive swabs comprised 58 throat swabs and 13 nose swabs. Many of the negative swabs indicated that the throat infection was either of staphylococcal or streptococcal origin. A few showed the presence of B. Hoffman or the pseudo-diphtheria bacillus and there were several cases of Vincent's Angina, a disease of the throat which may closely simulate true diphtheria. The County Medical Officer had 513 swabs examined, mainly from "contacts" with cases of diphtheria. Positive swabs were obtained in 24 cases, of which 17 were throat swabs and 7 were nose swabs. The positive swabs amounted to 4·7 per cent. of the number taken from contacts.

Examinations for Typhoid Bacillus and Allied Organisms.—The number of specimens received for examination during the year was 235. The specimens were 120 fæces, 57 urines, 55 bloods for Widal reactions, and 3 blood cultures.

Examination of Fæces.—General practitioners had 36 specimens of fæces examined for B. typhosus and allied organisms. Positive results were obtained in 9 specimens. B. typhosus was found in 3 specimens, B. paratyphosus B. in 4 cases, while in 2 cases the B. dysenteriæ Sonne was isolated. Negative results were obtained in 27 specimens received.

From hospitals 64 specimens of fæces were received of which 8 positive results were obtained, the positives being repeatedly from the same patients.

Twenty (20) specimens of fæces were examined for the County Medical Officer, chiefly from suspected "carriers" of these diseases. A positive result was obtained from the fæces of a known carrier who had been treated with a vaccine during the previous year.

Examinations of Urines.—No positive results were obtained from the 57 samples of urines submitted for examination.

Widals.—Fifty-five (55) samples of blood were examined for the Widal reaction, of which 20 bloods gave a positive reaction and 35 were negative. Eleven (11) bloods agglutinated B. typhosus and 9 were positive to B. paratyphosus B. Several of the positive Widals were obtained from repeated examinations of the same blood.

Blood Cultures.—Blood cultures were made from three specimens of blood, two of which were found to be positive for B. typhosus. It should be recalled that during the first week of typhoid fever the infection is of the nature of a septicæmia and that earlier results can be obtained from blood cultures during this period as B. typhosus appears in the stools at a later date. Similarly the Widal reaction is only established after about the tenth day of the disease.

General Examinations.—Bacteriological examinations were made from 242 specimens for the purpose of determining the causal micro-organisms, their chemical content or the nature of the specimens received.

Urines.—Sixty-five (65) urines were received for examination for the presence of B. coli and their chemical constituents. B. coli was found present in 36 samples.

Fæces.—Blood was found in a specimen of fæces while 3 were negative. Chemical examinations were made of 7 fæces for excessive fat content and undigested food.

Pleural Effusions.—Four effusions were examined for causal organisms.

Blood Films.—Thirty-five (35) blood films were examined, in 24 specimens simple anæmia was diagnosed and 6 films were obtained from a case of pernicious anæmia.

Pus.—Twenty-six specimens of pus were examined for micro-organisms. In 5 cases the gonococcus was found.

Milks.—Forty-nine (49) samples of milk were examined during the year, 31 being examined for B. tuberculosis and 18 for general bacterial count. Of the 31 samples examined for Tubercle Bacilli, 2 were positive and 29 were negative. The 18 samples submitted for bacterial count and chemical constituents were found satisfactory. Several of the samples were Certified Grade A Milks which were found to conform to the chemical and bacteriological standards.

Waters.—Five (5) samples of water were received for bacteriological examination, all of which were of a satisfactory standard.

Cerebro-spinal Fluid.—Five specimens of cerebro-spinal fluid were examined for the meningococcus and causal organisms, with negative results, and 8 swabs were obtained from contacts of a suspected case, also with negative results.

Miscellaneous Examinations.—Examinations were made of four feeding stuffs for anthrax, but the specimens were free from B. anthracis. Five tumours, 1 vomit and 3 specimens for scabies and ringworm were also examined during the year.

Vaccines.—Twenty autogenous vaccines were prepared from specimens of pus, urines, &c. for treatment of cases of boils, cystitis, &c. These vaccines are in addition to the autogenous vaccines prepared under the Tuberculosis Scheme.

The following Tables (Tables I., II. and III.) show the number of swabs examined, and their sources, the examinations for typhoid and allied organisms and the total number of specimens received under the Public Health Scheme :—

Table I.

Specimens examined for Diphtheria Bacillus.

	Positive.	Negative.	Total.
County Medical Officer	24	489	513
General Practitioners	71	554	625
Hospitals	165	866	1,031
	260	1,909	2,169

Table II.

Specimens examined for B. Typhosus, &c.

	County Medical Officer.		General Practitioners.		Hospitals.		
	Positive.	Negative.	Positive.	Negative.	Positive.	Negative.	Total.
Fæces	1	19	9	27	8	56	120
Urines	—	7	—	6	—	44	57
Widals	2	4	17	24	1	7	55
Blood cultures	—	—	2	1	—	—	3
	3	30	28	58	9	107	235

Table III.

Total Specimens Examined.

	Positive.	Negative.	Total.
Swabs	260	1,909	2,169
Fæces	18	102	120
Urines	—	57	57
Widals	20	35	55
Blood cultures	2	1	3
Urines (chemical, &c.)	—	—	65
Fæces ,,	—	—	11
Pleural effusions	—	—	4
Blood films	—	—	35
Pus	—	—	26
Milks	—	—	49
Waters	—	—	5
Miscellaneous	—	—	27
Vaccines	—	—	20
			2,646

Examinations under the Tuberculosis Scheme.—For the year 1925, 670 specimens were received for examination. The major portion of the work was the examination of sputa for the presence of B. tuberculosis, 536 samples of sputa being examined. From Newhills Sanatorium 204 sputa were received, of which 124 were positive and 80 negative. General practitioners had 299 sputa examined with 47 positive results. The Tuberculosis Medical Officer had 13 sputa examined, 8 of which were positive.

From hospitals throughout the County 20 specimens were received 11 being positive and 9 negative.

The following Table (Table IV.) shows the number of sputa examined and the sources :—

TABLE IV.

	Positive.	Negative.	Total.
Newhills Sanatorium	124	80	204
General Practitioners	47	252	299
Tuberculosis Medical Officer	5	8	13
Hospitals	11	9	20
	187	349	536

Examinations other than Sputa.—Forty-one specimens of urine were examined for tubercle bacilli and their chemical content. One sample contained B. tuberculosis, all others being negative. Four samples of fæces were examined, all with negative results. Six specimens of cerebro-spinal fluid were received, in one sample B. tuberculosis was the causal organism of the meningitis. Five pleural effusions were negative, as were also 9 specimens of pus.

Autogenous Vaccines.—During the year 69 autogenous vaccines were prepared from specimens of sputum for treatment of various pulmonary conditions.

The following Table (Table V.) shows the total number of specimens received for examination under the *County Tuberculosis Scheme* :—

TABLE V.

	Positive.	Negative.	Total.
Sputa	187	349	536
Urines	1	40	41
Fæces	—	4	4
Cerebro-spinal fluid	1	5	6
Pleural effusions	—	5	5
Pus	—	9	9
Vaccines	—	—	69
			670

The following Table (Table VI.) shows the total number of specimens received for examination during 1925 *from all sources* :—

TABLE VI.

Swabs Diphtheria	2,169
Fæces	135
Urines	163
Widals	55
Blood cultures	3
Pleural effusions	9
Pus	35
Milks	49
Waters	5
Cerebro-spinal fluids and swabs	19
Blood films	35
Miscellaneous	14
Sputa	536
Vaccines	89
	3,316

Stock Sera and Vaccines.—In accordance with the decision of the County Council, a supply of diphtheria antitoxic serum, anti-streptococcus serum, and other sera and vaccines was placed in stock in the County Bacteriological Laboratory on the 1st January, 1925, for the County hospitals and County medical practitioners, when required.

During the year 479 phials of Diphtheria antitoxin were distributed to hospitals and general practitioners. Forty phials of anti-tetanus serum were distributed and 31 phials of anti-streptococcal sera against scarlet and puerperal fevers and erysipelas. Seventeen phials T.A.B. vaccine were used in prophylactic treatment against diseases of the typhoid group of organisms.

J. F. TOCHER.

Aberdeen *4th February,* 1926.

SECTION VIII.

Report regarding Health of Burghs.

REPORT REGARDING HEALTH OF BURGHS.

The matter in the foregoing portion of this Report concerns the Burghs in respect of the comprehensive schemes dealing with Maternity and Child Welfare, School Medical Services, Bacteriological Services, Tuberculosis and Venereal Diseases. Only statistical data remain to be given.

Table I.

Population.

Burghs.	1921 Census.	As estimated at middle of 1925.	Increase or Decrease.
Ballater	1,542	1,630	+88
Ellon	1,261	1,221	−40
Fraserburgh	10,514	10,340	−174
Huntly	3,752	3,501	−251
Inverurie	4,455	4,347	−108
Kintore	741	698	−43
Oldmeldrum	1,015	960	−55
Rosehearty	1,267	1,229	−38
Turriff	2,152	2,039	−113
Totals	26,699	25,965	−734

Table II.

Marriages.

Burghs.	Number.	Rate per 1,000.
Ballater	7	4·3
Ellon	42	34·4
Fraserburgh . . .	71	6·9
Huntly	32	9·1
Inverurie	52	12·0
Kintore	8	11·5
Oldmeldrum . . .	9	9·4
Rosehearty . . .	10	8·1
Turriff	25	12·3
Totals	256	9·9

Table III.

Births.

Burghs.	Number (including Illegitimate Births).	Birth Rate.	Illegitimate Births.	Illegitimate Birth Rate.
Ballater . .	16	9·8	—	—
Ellon . . .	31	25·4	2	6·5
Fraserburgh . .	262	25·3	33	12·6
Huntly . . .	72	20·6	9	12·5
Inverurie . .	88	20·2	6	6·8
Kintore . .	16	22·9	3	18·8
Oldmeldrum . .	15	15·6	3	20·0
Rosehearty . .	24	19·5	5	20·8
Turriff . . .	42	20·6	6	14·3
Totals . .	566	21·4	67	11·8

Table IV.

Deaths and Death-rates.

Burghs.	Deaths.	Death-rates.
Ballater	6	4·3
Ellon	19	18·8
Fraserburgh . . .	113	11·8
Huntly	60	16·9
Inverurie	48	12·9
Kintore	9	17·2
Oldmeldrum . . .	10	12·5
Rosehearty . . .	28	24·4
Turriff	30	20·1
Totals . .	323	12·4

The first accompanying Chart shows the death-rates in the several burghs whilst the second gives the general death-rates, the phthisis and other infectious diseases death-rates and also the birth-rates.

CHART H.

BURGHS—Death-rates.

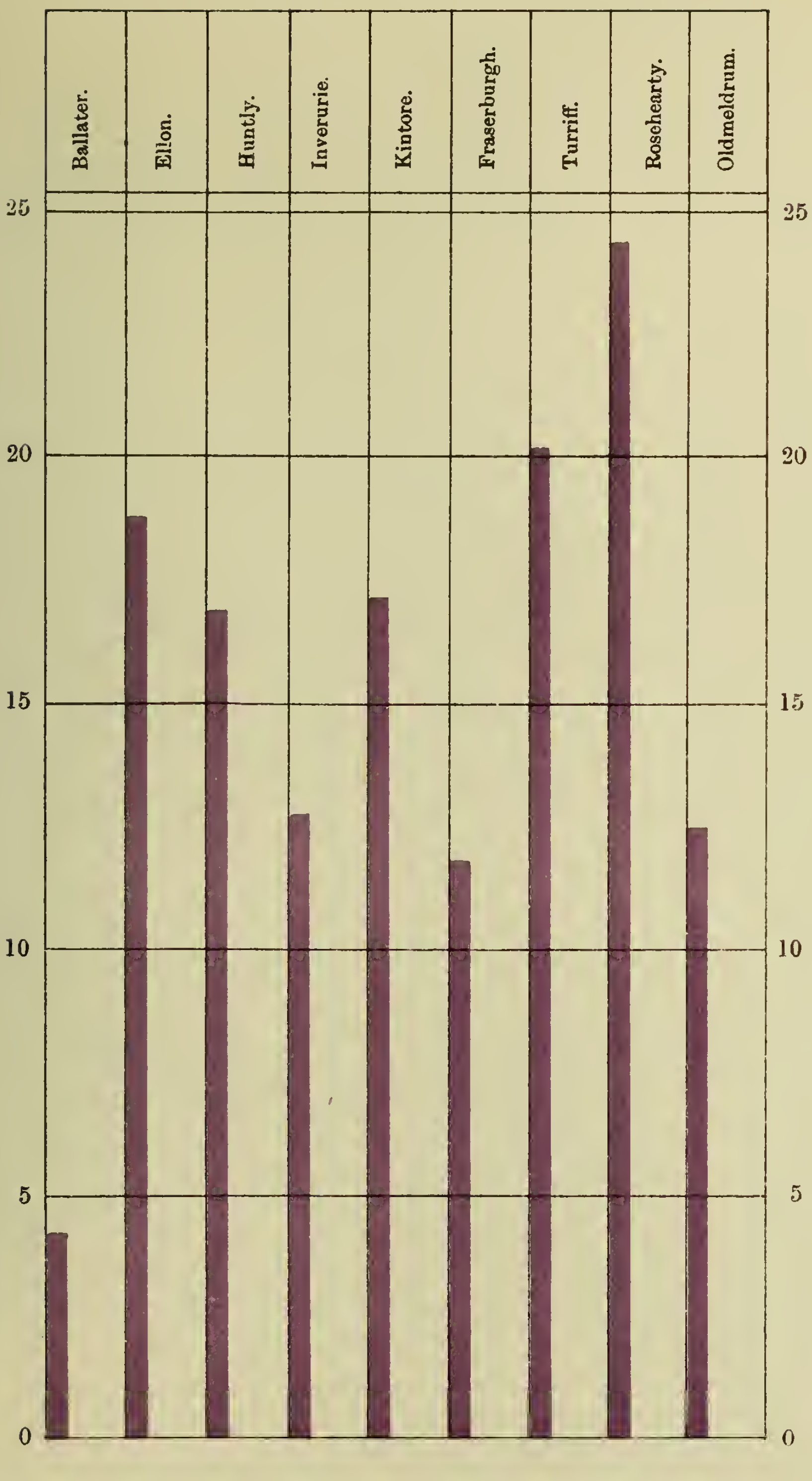
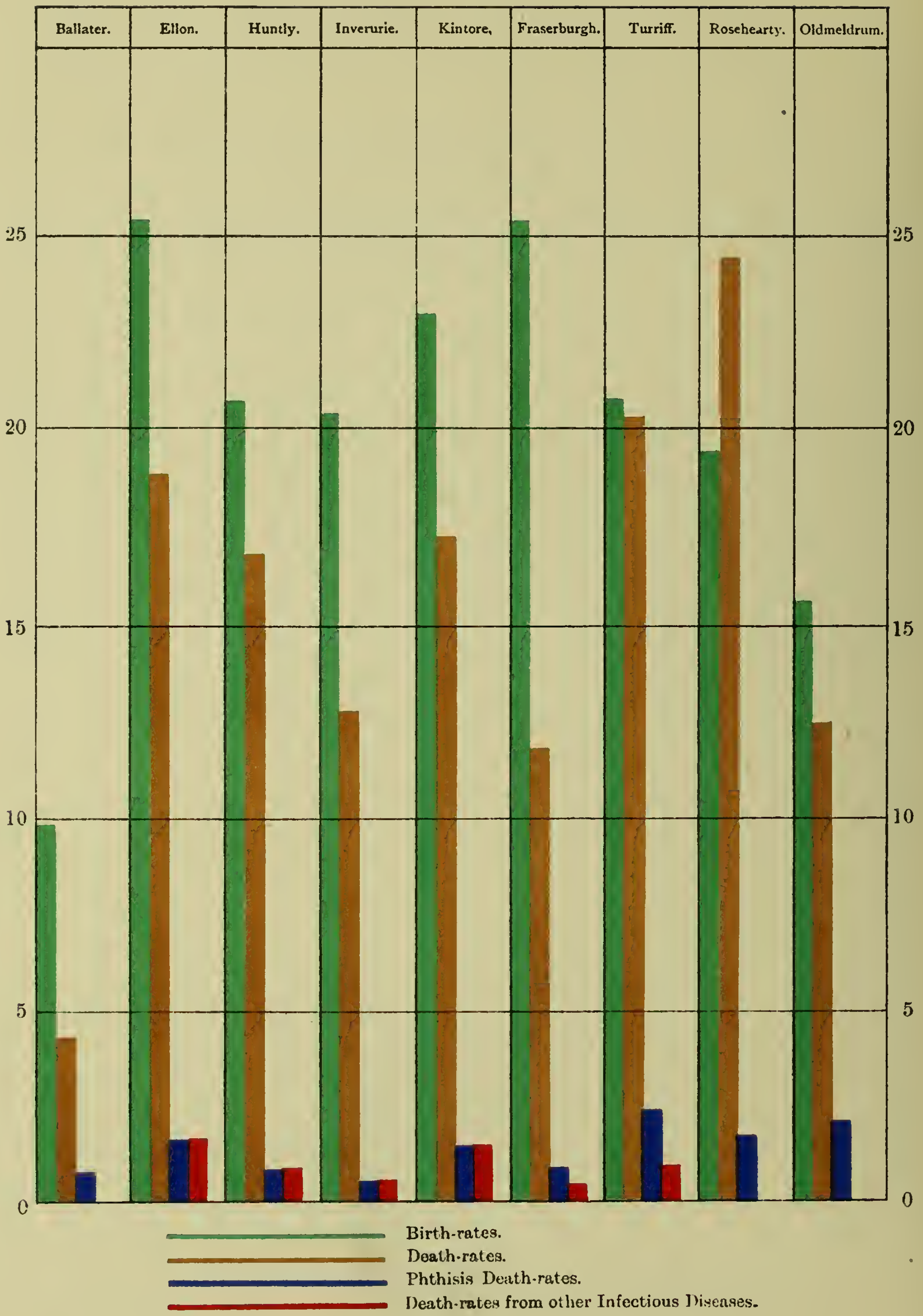


CHART I.

BURGHS.



INCIDENCE OF COMMONER ZYMOTIC DISEASES.

Table V.

Scarlet Fever.

Burghs.	Population.	Number of Cases.	Removed to Hospital.	Number of Deaths.
Ballater	1,630	—	—	—
Ellon	1,221	7	7	—
Fraserburgh . . .	10,340	17	17	—
Huntly	3,501	3	3	—
Inverurie	4,347	14	13	—
Kintore	698	—	—	—
Oldmeldrum . . .	960	—	—	—
Rosehearty	1,229	9	8	—
Turriff	2,039	7	7	1
Totals	25,965	57	55	1

Table VI.

Diphtheria.

Burghs.	Population.	Number of Cases.	Removed to Hospital.	Number of Deaths.
Ballater	1,630	1	1	—
Ellon	1,221	—	—	—
Fraserburgh	10,340	27	27	—
Huntly	3,501	1	—	1
Inverurie	4,347	6	6	—
Kintore	698	4	1	—
Oldmeldrum . . .	960	—	—	—
Rosehearty	1,229	2	1	—
Turriff	2,039	—	—	—
Totals	25,965	41	36	1

Table VII.

Typhoid Fever.

Burghs.	Population.	Number of Cases.	Removed to Hospital.	Number of Deaths.
Ballater	1,630	—	—	—
Ellon	1,221	—	—	—
Fraserburgh	10,340	6	6	1
Huntly	3,501	1	1	—
Inverurie	4,347	—	—	—
Kintore	698	—	—	—
Oldmeldrum . . .	960	—	—	—
Rosehearty	1,229	—	—	—
Turriff	2,039	—	—	—
Total	25,965	7	7	1

SECTION IX.

District Sanitary Inspectors' Reports and Appendices.

DISTRICT SANITARY INSPECTORS' REPORTS.

I.—DEER DISTRICT.

To the County Council of Aberdeen
and the Scottish Board of Health, Edinburgh.

Gentlemen,—In terms of Section 53 of the Local Government (Scotland) Act, 1889, I beg to submit the following report upon the sanitary conditions of the Deer District for the year ended 31st December, 1925 :—

Water Supply.—The water supplies of all the Special Districts have continued to give satisfaction during the year.

Outside the Special Districts work has gone on improving water supplies. Several improvements have been carried out during the year on private water supplies and at schools.

Drainage.—The drainage works in the Special Districts have all been maintained and kept in good working order. Throughout the District generally, several new drainage systems were introduced and alterations were carried out in a number of cases.

Scavenging.—The scavenging within the special areas continues to give satisfaction and the cleansing is being well attended to. The scavenging throughout the District generally is being well looked after.

Nuisances.—All nuisances which came under my notice were immediately attended to. Five cases were reported to the Local Authority, who gave instructions to serve the statutory notice. This had in each case the desired effect.

Special Inspections.—Special enquiries were made into all cases of Infectious Disease. The Fish Oil and Guano Works at Broadsea were also inspected. Several Subsidy houses were visited and certificates granted upon their completion.

Schools.—Several schools were visited; some of which were disinfected in connection with outbreaks of Infectious Disease. A number of the privies at various schools require attention.

Workshops.—Workshops were visited as time would allow and all the premises visited were found in good order.

Dairies.—The dairies were all visited and with one exception were found to be in good order. The places and cows are kept clean and everything well attended to.

Slaughter-Houses.—Two hundred and ninety-five visits were made to slaughter-houses. Two hundred and twelve lbs. of diseased meat were seized and destroyed with the owners' consent. One case was reported by the Local Authority with a view to a prosecution, but the case was not gone on with. The following were the terms of the report :—

> I have to report that on 7th May, 1925, when inspecting the slaughter-house, 76, Main Street, New Deer—George Watson, Butcher—I found the following parts of the carcase of a cow, namely, a short side, the shoulder having been cut off and hanging up, a part of the other side three or four ribs above the shoulder, the lung and the spleen. On examining these parts I found that the serous membranes had been stripped and entirely detached from the carcase. These membranes were not available for my

inspection as they had been put away. I asked the butcher what the linings had been stripped for and he said that a mistake had been made and that back bleeding had taken place. I then made a close examination of the parts as I was not satisfied with the explanation, and I informed the butcher that I was to call in Mr. G. T. S. Mower, V.S. I went for him and along with me he inspected the parts and stated that the cow had been suffering from tuberculosis, although not in an advanced stage. There were signs of tuberculosis both in the carcase and the lungs.

I asked the butcher where the other parts of the carcase were and he said in his shop. The Veterinary Surgeon and myself went to the shop and found part of the other fore-shoulder on the counter, which also showed signs of stripping. This was also inspected and Mr. Mower confirmed his opinion regarding tuberculosis. I seized both this part and the parts in the slaughter-house and poured carbolic acid on them. The butcher made no objection to the seizure and assisted me in removing the parts.

(Signed) W. J. Simpson.

I consider the foregoing to be a fair and accurate statement of the facts in this matter.

(Signed) G. T. S. Mower, M.R.C.V.S.

Common Lodging-House.—There is only one common lodging-house in the District. It has been regularly visited and always found in good order.

Burial Grounds.—The burial grounds so far as visited were all found in good order.

Observations on Food Inspections.—The premises where food, &c., are prepared and stored are all in good condition; well kept and clean. There are no factories in the District for the preparation of food on a large scale.

I am, Gentlemen,

Your obedient servant,

(Signed) W. J. Simpson,

Sanitary Inspector.

Strichen, 20*th April*, 1926.

II.—ELLON DISTRICT.

To the Scottish Board of Health
and the County Council of the County of Aberdeen.

My Lords and Gentlemen,—I beg to submit my report for the Ellon District, in terms of the Regulations of the Board, under Section 53 (1) of the Local Government (Scotland) Act, 1889, for the year ending 31st December, 1925.

(a) A General Account of the Sanitary State of the District, as regards Water Supplies, Drainage, Scavenging, Nuisances, &c., together with any suggestions for their improvement.

1. *Water Supplies.*—The Special Water Supply Districts comprise the villages of Port-Erroll, Hatton, Newburgh, Tarves and Collieston.

Port-Erroll.—The water supply has been well maintained during the year, although a shortage was felt in several houses situated on the higher level. This was due to the corroded condition of the main pipe from Station Road eastwards along Aulton Road. The renewing of this pipe, in order to remedy this defect, is now under consideration. It will necessitate the laying of 474 yards of 4-inch cast-iron pipe.

Collieston.—The work of augmenting the water supply was carried out during the earlier part of the year. A 1½ B.H.P. Petters' direct coupled pumping set was installed. This gave an additional supply of 420 gallons per hour when required. It is only necessary to keep the engine working a few hours every day during the summer months. During the winter the hydraulic rams pump sufficient water to meet the requirements of the village.

Newburgh.—This supply caused much anxiety during the summer. The chief cause of shortage is the inadequate carrying capacity of the main pipe from the reservoir. When any leakage occurs, the pressure is so much reduced that only houses with connections in the lower flats obtain water.

I suggested the laying of a 4-inch pipe from the reservoir to a point near Foveran Manse. The present pipe between these points is only 2½-inch in diameter. The distance would be approximately 1,890 yards. The supplying of material and executing the necessary work would probably cost about £950. In view of this large expenditure it was decided to obtain advice from Mr. George Mitchell, City Water Engineer, Aberdeen. His report as to the best means to adopt in remedying the defect was in concurrence with my views as stated above, but his estimate of the cost was £1,150. The whole system was tested for probable leaks, and two were discovered and repaired. This effected a distinct improvement, and it was resolved to hold the proposed work in abeyance meantime.

Tarves.—The water supply was fairly satisfactory during the year. I contemplate difficulty in the near future, however, as there are slight indications of shortage.

Hatton.—The water supply proved very satisfactory throughout the year.

Outwith the Special Districts several new supplies were installed. Four samples of water were taken for the purpose of analytical examination. Three samples proved satisfactory, and one was so badly contaminated as to be quite unfit for domestic use.

2. Drainage.—The public sewers in the Special Districts of Port-Erroll, Newburgh and Tarves continue to give satisfaction.

Collieston.—A complaint was received with regard to the condition of one of the branch public drains. On investigating the source of trouble I found that the drain had been laid on too flat a gradient. The cost of relaying this drain was prohibitive, partly because of the initial cost of material and also owing to the rocky nature of the ground which would require to be excavated. As an alternative a flushing tank was constructed at the end of the drain, and it is flushed once a week, and has proved very satisfactory.

The following are the numbers of Sanitary Conveniences in use in the populous parts of the District:—

	(1) W.C.'s.		(2) Without	(3) (a)	(b)	(c)
Name of Special District.	No. of W.C.'s.	No. of Tenants per W.C.	Water & Sink in House.	Dry Closets.	Privy Middens.	Ashpits.
Port-Erroll . .	76	1	64	—	—	4
	6	4	—	—	—	—
Collieston . .	22	1	34	—	—	2
Newburgh . .	35	1	41	8	—	3
	5	3	—	—	—	—
Tarves . . .	12	1	16	14	2	31
	5	2	—	—	—	—

The foregoing Table includes 25 Water Closets which have been introduced within the past three years.

3. *Scavenging.*—At Port-Erroll and Newburgh the daily collection of domestic refuse is carried out regularly. There is still a tendency at Port-Errol for several householders to carry out this work themselves. I allude to the disagreeable habit of dumping refuse on the foreshore. It is assumed that when the tide rises the deposit will be carried away. Provided that the refuse was dumped on ground which is periodically covered with water, this system might work without giving much cause for complaint, but what actually happens, however, is that the human element fails to carry out its self-imposed task. The refuse is deposited on ground in proximity to the houses, which is seldom, if ever, reached by the tides. I have spent considerable time endeavouring to locate the authors of this nuisance, but without success. That a vigil is being kept acts as a deterrent on the more timorous apostles of this practice.

4. *Nuisances.*—During the year 45 nuisances were reported and 63 discovered by means of house to house inspection. On investigating the former I found in some cases justification for complaint. In others it was simply a case of umbrage between tenants and landlords.

I think it advisable that it should be more widely known that the time occupied in investigating groundless complaints could be more profitably utilised in making a round of inspection, which inevitably produces some genuine cases requiring attention; also that it should also be borne in mind that I have sufficient trouble in persuading owners of property to get real defects remedied, without calling their attention to imaginary ones.

With the exception of one case, which is still pending, the requirements were carried out.

(b) An Account of General and Special Inspections of Offensive Trades, Schools, Factories, Workshops and Dairies, &c.

1. *Special Inspections.*—The number of special inspections is steadily increasing. The poor are always with us, so also is the neglectful housewife. These individuals are responsible for causing a great deal of extra work, if they are to be guided on what one might term the narrowest road to health. In some cases the most elementary laws of hygiene go unheeded. Young families are brought up under conditions which are a menace to civilisation. The utter disregard by parents of the physical well-being of their children is almost criminal.

In one of these houses that I visited I found a family, consisting of two adults and four children, all occupying the kitchen; the remaining two rooms of the house being left empty. In the polluted atmosphere of the kitchen a baby was lying in a perambulator. Its appearance could only be depicted by such pictures as represent famine. Yet in asking the mother what was wrong I was assured that the child was quite healthy. The baby weighed ten pounds when fully six months old. The most distressing feature was that the enormous benefit of fresh air and sunshine was being denied to this little mite. The value of fresh air can be realised when we consider that life can be maintained for fifty days without food, five days without water, but not five minutes without air. There is no doubt that the harmful impression of home life on the minds of the children is retained. A striking example to bear out this statement came under my notice some time ago. A married couple took occupation of a house in a locality where their previous history was unknown. The husband was earning good wages, yet within six months of taking up residence I found that poultry was being kept in one of the living rooms. This certainly showed laxity of responsibility. From subsequent inquiries which I made I found that they had, prior to coming to this District, occupied a house in the slum quarter of Aberdeen.

There has been an increasing demand for advice on matters pertaining to practical sanitation. This is very satisfactory, as it frequently leads to sanitary improvements being ultimately carried out.

2. *Infectious Disease.*—The total number of cases of infectious disease notified during the year was 44, as compared with 42 last year.

The diseases were as follows :—Scarlet Fever, 18; Pneumonia, 12; Typhoid, 8; Diphtheria, 3; Erysipelas, 2; Puerperal Fever, 1.

3. *Slaughter-Houses.*—The slaughter-houses have been regularly visited and were found clean and well kept.

4. *Unsound Food.*—Two hundred and sixty inspections were made during the year; 3,390 lbs. of meat affected with tuberculosis and 210 lbs. affected with inflammation were seized and destroyed—with the owners' consent.

5. *Schools.*—In previous reports I have always expressed a rather decided opinion as to whether the Education Authority fully realised the benefits derived from the introduction of modern sanitary conveniences. However, I had certainly to alter my opinion when I observed the improvements carried out at the Culter-Cullen School. A complete water and drainage scheme was installed. There were nine water-closets and a urinal for boys in suitable new buildings, and a bathroom was provided in the schoolhouse.

Such work is to be encouraged, and although costly at the present time, it is long overdue. It should also be remembered that if the schemes adopted are well planned the upkeep is very small. I trust, therefore, that similar improvements already contemplated will be duly carried out in the near future.

6. *Workshops.*—Eighty-seven inspections were made and thirteen defects pointed out, which were duly remedied.

7. *Common Lodging-Houses.*—There are no common lodging-houses in the District.

8. *Dairies, Cowsheds and Milkshops.*—The number of registered dairies in the District at the beginning of the year was 79; and 5 were added and 3 removed from the register during the year; leaving 81 registered premises at 31st December, 1925.

Two licences to sell Certified Milk were granted to Mr. J. Keith, of Pitmedden, Udny, from his dairies at Cairnbrogie, Tarves, and Bonnyton, Udny. Both of these dairies serve as examples of the manner in which clean milk is produced. The close observance of the necessarily important details is clearly demonstrated by the fact that the average number of bacteria per cubic centimetre is about 4,000. In the numerous visits which I have paid to these dairies I have always observed that the highest standard of cleanliness was being maintained.

With the new regulations coming into operation many fears have been expressed by highly competent and conscientious dairy farmers with regard to their requirements. I feel assured, however, that if administered from a common sense standpoint, all those engaged who are doing their best will be encouraged.

The number of visits paid during the year was 116. Seven dairymen were cautioned regarding the condition of their premises. The majority of the dairies is conducted in a very satisfactory manner. Numerous small improvements were carried out, such as providing water in byres, additional lighting and ventilation, and renewing the cement concrete of passages.

Two large improvements were also completed during the year at the farms known as Braehead and East Pitmillan, respectively.

9. *Burial Grounds.*—The burial grounds within the District are kept in good order.

I am, my Lords and Gentlemen,

Your obedient servant,

(Signed) Edward W. Brannen.

Ellon 12*th March*, 1926.

III.—GARIOCH AND HUNTLY DISTRICTS, AND THE BURGHS OF OLDMELDRUM AND KINTORE.

To the Scottish Board of Health, Council of the County of Aberdeen,
Garioch District Committee, Huntly District Committee,
Town Council of the Burgh of Oldmeldrum, and
the Town Council of the Burgh of Kintore.

Gentlemen,—In accordance with the terms of Public Health Circulars Nos. XVI. and XVII., 1925, I have pleasure in submitting the following report on the general sanitary condition of my District for the year ending 31st December last.

Area and Population.—The area is 209,459 acres, comprising 22 parishes, of which 15 are administered by the Garioch District Committee and 7 by the Huntly District Committee. The Burghs of Oldmeldrum and Kintore are both situated within the Garioch District, and their respective Councils are separate Local Authorities for public health purposes.

At last Census, the population numbered 20,669, and the occupied houses 4,462.

The average number of persons per house in the Districts was 4·75, and in the Burghs 3·84.

(a) A General Account of the Sanitary State of the District as regards Water Supplies, Drainage, Scavenging, Nuisances, &c., together with any suggestions for their improvement.

1. *Water Supplies.*—The Special Water Supply Districts in Garioch District are Insch and Rothney, Kemnay and Monymusk; and in the Huntly District, Rhynie and Gartly Station. In common with the experience of cities and towns most village communities have found that the rate of progress with public health work was such as to call for augmentation to, or improved distribution of, their water supplies before loans on the cost of earlier works were paid off, whilst others recognise that such improvements become more and more necessary with the approach of the date of the final repayment of loans and interest.

Insch and Rothney.—The main pipe from the reservoir was duplicated in 1919 and the villages are well supplied with water. In August last, it was necessary to issue handbills requesting the inhabitants to desist from wasting water, when the minimum inflow of 57 gallons per head of the population was being taken from the reservoir daily. As will be seen in Table I. in this report, these villages take the premier position in the District in respect of modern fitments at dwellings.

Kemnay.—The inflow of water to the reservoir was at the rate of 67 gallons per minute at the dryest season of the year, which equals 100 gallons per head of the population per day of 24 hours. Improved distribution of this supply will require consideration in the near future, as the carrying capacity of the pipes is limited and has, to some extent, retarded the forward state of sanitation that one would like to see in a village so favourably situated.

Monymusk has a water supply which might, with advantage to the community, be made more use of.

Rhynie.—There is always an ample supply of water at the source, but the limited carrying capacity of the 2½-inch main pipe calls for very strict attention to maintenance and repair of fittings in order to keep all parts of the area fully supplied with water. The village resembles Kemnay in this and other respects. I understand that the cost of the original works is nearly paid off.

Oldmeldrum.—A contract for provision of a new distributing reservoir, with relative supply and distributing pipes, was carried out during the year. The inflow to this reservoir is obtained through the collecting reservoir at Greystone, which is supplied from adjoining gathering grounds and, when necessary, by means of a windmill pump. About three-quarters of the population of the Burgh is supplied with water from this source, the other quarter being separately supplied from the reservoir at Parcock. On the 26th August last, the total available inflow at Greystone reservoir was 16 gallons per minute—barely 30 gallons per head of the part of the population supplied. I had no means of measuring the supply from the other system, but noted that the higher situated houses connected with both supplies were occasionally without water for short periods in the busy part of the day. The town stands on a hill and is subject to the difficulties experienced with high and low areas of distribution. In view of the progress being made with the erection of new houses and the general introduction of modern conveniences to other houses in the Burgh, I am of opinion that the supply of water will require to be augmented.

Kintore.—On 16th September, the inflow of water to the reservoir was at the rate of 18½ gallons per minute, approximately 36 gallons per head of the population daily. The Town Council are at present considering the taking in of additional springs with a view to augmenting the supply.

Outwith Special Districts, several new supplies were provided and existing supplies improved.

2. *Drainage*.—The Special Drainage Districts include all the Special Water Supply Districts and the Burghs. The systems of public sewers have given satisfaction. In the Burgh of Oldmeldrum, a complete new system of sewers was constructed, excepting the outfall which was of modern construction, and many private connections were either renewed or improved. Throughout the District, there were 37 water-closets provided, and their drainage connections inspected. This year, the Board of Health request additional information with reference to populous places in the District as to—(1) the number of common water-closets in use, showing separately the number serving 2, 3, 4, and 5 or more tenants respectively; (2) the number of houses without water supply and sink inside the house; and (3) the number of (*a*) dry closets, (*b*) privy middens, and (*c*) ashpits, showing for each separately the number serving 2, 3, 4, and 5 or more tenants respectively.

Table I. gives the above details in respect of the several Special Districts and Burghs, as also the information supplied in this connection in my reports for the year 1920, being the first year that a definite duty was placed on Local Authorities of rural areas to see that water was introduced to the inside of houses and water-closets provided wherever reasonably practicable.

TABLE I.

Special District and Burghs.	Insch and Rothney.	Port-Elphinstone.	Kemnay.	Monymusk.	Rhynie.	Gardy.	Oldmeldrum.	Kintore.
Estimated population . .	1,020	450	940	120	375	48	1,015	740
Approximate number of houses .	300	103	260	32	114	12	276	190
Tenants using conservancy closets in 1920	60	24	130	30	78	11	222	65
(1) Water-closets used in common by—								
2 tenants	14	—	16	—	3	—	10	21
3 tenants	13		3	—	3	—	8	5
4 tenants	8		7	—	3	—	2	9
5 or more	7		1	—	2	—	—	1
(2) Houses without water supply or sink inside	98	Now in the Burgh of Inverurie.	167	28	56	3	150	73
(a) Dry closets serving—								
2 tenants . . .	1		5	—	6	—	10	—
3 tenants . . .	4		2	—	3	—	2	—
4 tenants . . .	1		1	—	2	—	—	—
5 or more . . .	—		—	—	—	—	—	—
(3) (b) Privy middens serving—								
2 tenants . . .	4		9	—	4	—	12	3
3 tenants . . .	—		7	—	1	—	5	2
4 tenants . . .	—		5	—	2	—	1	—
5 or more . . .	—		4	—	1	—	3	—
(c) Ashpits serving—								
2 tenants . . .	—		8	—	10	1	26	15
3 tenants . . .	—		4	—	5	—	10	3
4 tenants . . .	—		7	—	4	—	2	5
5 or more . . .	1		4	—	3	—	2	8

3. *Scavenging.*—Six years ago, I suggested that the villages of Kemnay, Port-Elphinstone, and Insch and Rothney should be formed into Special Scavenging Areas, and only one of these—Kemnay—is now without its organised system of refuse removal. If the inhabitants of Kemnay and Rhynie were to hold a conference with the inhabitants of the other two villages on the subject of scavenging, there would be no doubt as to the result. There is no looking back to "old days" in this matter. In any community, the regular and frequent removal of household waste creates a feeling of well-being that few other public services can equal.

INSCH AND ROTHNEY.—The removal of refuse every second day was begun during the year, and is giving the utmost satisfaction to all concerned. Over 60 fixed ashpits have been, or are in course of being, abolished.

OLDMELDRUM.—The Town Council of this burgh have recently been doing so much for the good of the community that it may be considered out of place to suggest to them that there is a better way of dealing with house refuse than to store it up for periods of three months in the vicinity of dwellings. As soon as all the houses are fitted with modern conveniences, the existing fixed ashpits should be abolished. Meanwhile, the material has a beneficial mechanical action on the soil in the neighbourhood, and the Burgh Surveyor seems to get it disposed of at small cost to the ratepayers.

Kintore.—The adoption of the bin system of dealing with house refuse, in place of the existing fixed ashpit system, is estimated to cost 1½d. increase in the rates. There is a large unseen revenue to be derived from that expenditure, if increased comfort and health to the community can be reckoned in terms of pounds, shillings and pence.

4. *Nuisances.*—Those registered and dealt with were distributed as follows:—Garioch District, 47; Huntly District, 27; Oldmeldrum, 24; and Kintore, 9. They referred mainly to defective conditions found or complained of at dwelling-houses, and progress was made with their abatement. In Garioch District, 8 new houses were erected of which 4 were subsidised. In Huntly District, subsidies were promised in respect of 4 new houses, and other 3 were erected without a subsidy. The Town Council of Oldmeldrum are proceeding with a scheme of 14 new houses of which the greater proportion are expected to be ready by Whitsunday, and there were also several bungalows built in the Burgh. Kintore Burgh has adopted its first housing scheme, apart from assistance given to private enterprise. Plans and schedules are ready for erection of the first instalment of houses belonging to the Local Authority. Considerable numbers of the older houses in the rural areas are getting beyond repair. The assistance given to private enterprise seems unlikely to result in the erection of many isolated houses in the country, and the people are being gradually driven towards the thicker centres of population.

(b) An account of General and Special Inspections, of Supervision of the Slaughter-Houses, Schools, and of Factories and Workshops.

1. *General Inspections.*—These were made of all places likely to be requiring attention. Where such inspections can be carried out systematically, the service is welcomed.

2. *Special Inspections.*—These were made where water supplies, drainages, and other improvements were carried out at dwellings, in cases of complaint being made, at houses and schools where there were outbreaks of infectious disease, and to all subsidised houses in course of erection.

The total number of cases of infectious disease notified was 108, the nature of the illnesses and the distribution being—

Garioch District.—Scarlet Fever, 39 (32); Pneumonia, 19 (6); Diphtheria, 7 (7); Erysipelas, 3; Para-typhoid, 2 (2); Typhoid, 1 (1); Ophthalmia Neonatorum, 1.

Huntly District.—Scarlet Fever, 21 (16); Diphtheria, 4 (4); Pneumonia, 5; Erysipelas, 4; Encephalitis Lethargica, 1.

Oldmeldrum.—No cases during the year.

Kintore.—Diphtheria, 1 (1); Pneumonia, 1 (1); Ophthalmia Neonatorum, 1.

The numbers within brackets were removed to hospitals.

3. *Slaughter-Houses.*—The 6 licensed slaughter-houses are situated at Kemnay, Kintore, Daviot, Rhynie, Rothney and Drumblade. There was very little slaughtering done at the two latter places. Application was received by the Town Council of Oldmeldrum for sanction to establish a slaughter-house in that Burgh, but the applicant could not see his way to agree to the terms laid down by the Local Authority with regard to payment of fees for meat inspection. The fact that operations have practically ceased at two of the slaughter-houses in the District indicates that this work can be centralised.

4. *Schools.*—There are 45 schools within the District and all have been visited from time to time. Additional class-room accommodation was provided

at Old Rayne Schools, and extensive alterations and additions were completed at Commercial Road Schools, Oldmeldrum. I sprayed and steamed all the class-rooms in Kemnay Schools in a vain effort to check scarlet fever, which has been more or less endemic amongst the children for the past 12 months.

Acting in conjunction with the Management Committee for School Area No. 5, and with the approval of Huntly Town and District Councils, I prepared plans, schedules of quantities, &c., for converting the Disinfecting Station at Huntly Cottage Hospital into a cleansing station. While a School Authority has power to cleanse school children found in a verminous condition, there is no power given to Public Health Authorities to compulsorily cleanse adult persons, and the former justly complain that any work in this connection is largely abortive unless the parents, children at home, clothing and house, can be cleansed at the same time as the children attending school.

Persuasive efforts, together with an entire absence of publicity in cases handled, have not been without some measure of success, but there is room for more advantage being taken of the facilities offered.

Fortunately, the work of school medical inspection has greatly diminished the more flagrant of such cases. Local Authorities would be keeping their end up, if they conveyed willing families to hospital free of charge, and bore their share of a day's maintenance at the cleansing station.

5.—*Factories and Workshops.*—There are 36 factories and 172 workshops on the register. The nature, number, and distribution are shown on Table II.

TABLE II.

Nature of Business.	Garioch District.	Huntly District.	Oldmeldrum District.	Kintore.	Total.
Bakers	7	1	2	1	11
Blacksmiths	21	16	2	1	40
Carpenters	20	14	2	2	38
Dressmakers	7	1	2	1	11
Hairdressers	1	—	2	—	3
Laundries	1	1	—	—	2
Meal Millers	7	5	—	—	12
Motor Mechanics	4	4	4	2	14
Painters and Plumbers	1	—	2	—	3
Paper Manufacturer	1	—	—	—	1
Saddlers	4	—	1	1	6
Shoemakers	14	8	4	3	29
Tailors	13	9	4	2	28
Watchmakers	2	1	1	1	5
Woollen Manufacturers	—	2	—	—	2
Brewers	—	1	2	—	3
Totals	103	63	28	14	208

A total of 149 inspections was made to the more important places during the year.

(c) *An Account of Common Lodging-Houses.*

There are no Common Lodging-Houses in the area.

(d) *An Account of Dairies, Cowsheds, and Milkshops.*

There were 8 Dairy byres improved by having floors, forestalls, and skirtings cemented; 4 were provided with improved water supplies and 3 with new milk houses.

Applications for registration under the Milk and Dairies Act, 1914, which came into operation during the year, numbered about 400.

(e) An Account of the Condition of Burial Grounds.

Those visited were found to be well kept. No complaints were received regarding any of them. One interment was carried out in terms of Section 69 of the Public Health (Scotland) Act, 1897.

(f) The Sale of Food and Drugs Acts are administered under directions of the Chief Constable for the County.

(g) Observations on Food Inspection, Unsound Food, and the Condition of Premises where Foods are manufactured, prepared, stored or exposed for sale.

1. *Food Inspection.*—The work of inspecting bakeries, dairies, slaughter-houses, fleshers' shops, fish shops, farms, restaurants, and ice-cream shops, affords many opportunities of noting varying developments of "the sense of cleanliness" in the workers. Where premises are all that can be desired and minor details are being neglected it is frequently beneficial to have a talk with the younger members of the staff, impressing on their minds the fact that someone is to eat the food being handled and the importance of absolute cleanliness in every detail.

2. *Unsound Food.*—704 lbs. of beef, 400 lbs. of mutton, and 60 lbs. of pork were surrendered as being unfit for human food.

I am, Gentlemen,

Your obedient servant,

(Signed) George Watt,

Sanitary Inspector.

Inverurie, 15*th April*, 1926.

IV.—DEESIDE DISTRICT.

To the Scottish Board of Health,
the Council of the County of Aberdeen,
and the Deeside District Committee.

Gentlemen,—In terms of Section 15 of the Public Health (Scotland) Act, 1897, I beg to submit the following report on the general sanitary condition of this District for the year ending 31st December, 1925.

1. *Water Supply.*—The water supplies for the Special Districts, with the single exception of Lumphanan, have been well maintained during the year. At Lumphanan, as mentioned in my last year's report, owing to scarcity of water at two farms and several of the higher placed houses, the Committee instructed their Engineers (Messrs. Walker & Duncan, Aberdeen) to examine and report on the condition of the supply. The Engineers reported that there was an ample supply in the reservoir, but that they had discovered several very bad leaks in a few of the service pipes, whereby the water was simply going to waste and causing loss of pressure. They also recommended the putting in of air-valves on the higher points of the system to prevent the pipes getting air-locked. The work was carried out as advised, and there has been no further trouble. The Committee have also come to an agreement with the proprietor of Glenmillan Estate, whereby they have secured the full control of the old water supply and reservoir.

The supply for Lumphanan should now be ample for a long time to come. At Braemar a considerable amount of work was carried out in connection with the supply to the Auchendryne reservoir. The small burn from which the reservoir is fed has been laid with pipes for a distance of fully 2,000 yards, thus ensuring a cleaner and steadier supply. There is about a hundred yards to be laid yet, and the reservoir is also to be overhauled and repaired next spring before the visitor season commences. At Torphins the Committee are meantime negotiating with the proprietor of Learney Estate for a discharge of their obligations under the existing charter, with regard to the supply of water to the farm of West Learney, and for a perpetual right of the water area, with the full control of the water and the sole right to search for new springs, if required, in all time coming. Outside the Special Districts improvements continue to be carried out. Several new supplies have been laid down and others improved. Three samples were sent for analysis. Two were proved good and one unfit for use. A new supply was provided.

2. *Drainage.*—The sewers within the Special Districts have all worked satisfactorily, no trouble having occurred with any of them. At Dinnet—which was recently formed into a Special Drainage District—an irrigation farm has been laid out by the Aberdeen Town Council, for the better treatment and disposal of the sewage and to prevent any pollution of the River Dee, from which the Aberdeen Water Supply is drawn. Throughout the District ten new systems were laid down while alterations and improvements were carried out on others.

3. *Scavenging.*—The scavenging of the Special Districts has been carried out as formerly and been entirely satisfactory. The cleansing of ashpits has been fairly well attended to.

4. *Nuisances.*—All nuisances coming under my notice or reported to me have been dealt with.

5. *Inspections.*—General Inspections were carried out as usual, and special inspections were made in all cases of infectious diseases notified, on complaints received, and where housebuilding, water, or drainage were being carried out.

6. *Schools.*—Most of the schools were visited and on the whole were generally found to be fairly clean and well kept. One school was disinfected after an outbreak of infectious disease. Several of the schools were distempered during the summer vacation.

7. *Workshops.*—Most of the workshops and all the bakehouses in the District were visited, and were mostly found to be fairly well kept. One hundred and three visits were made and no complaints found.

8. *Dairies.*—One new dairy was registered during the year and three withdrawn, leaving the number on the register at 31st December at 20. The number of inspections was one hundred and thirty-six, and two complaints found, both of which were dealt with. New Bye-laws to meet the requirements of the recent Milk and Dairies Act are in course of approval of the Committee and the Board.

9. *Slaughter-Houses.*—The nine slaughter-houses on the register have been regularly visited and were always found clean and in good order. Two hundred and twenty-six visits were made and no complaints found.

10. *Common Lodging-Houses.*—There are none in the District.

11. *Burials.*—Undertaken in terms of Section 69, one.

12. *Burial Grounds.*—The burial grounds have been kept in fair order and no complaints received. Negotiations are meantime proceeding for a new burial ground at Lumphanan, the old one being practically full.

13. *Housing, &c., Acts.*—During the year ten new houses were built—and occupied. Three houses were found in such a condition as to be almost uninhabitable. Two were gutted and reconstructed and the other taken down and rebuilt. Twenty-seven houses had defects remedied under Section 16 of the Public Health Act, 1897.

I am, Gentlemen,

Your obedient servant,

(Signed) ALEX. MORRICE,
Sanitary Inspector.

Aboyne, 15*th March*, 1926.

V.—TURRIFF DISTRICT.

To the Scottish Board of Health
and Turriff District Committee.

Gentlemen,—I beg respectfully to submit for your information my Annual Statement on the general progress and improvement of the District during the year ending 31st December, 1925.

Water.—1925 was a very dry year and a scarcity of water was felt all over the District and many springs went dry which were never known to be in such a state before.

In the three Special Districts the supply had to be carefully guarded. CUMINESTOWN supply had to be turned off at nights for about six weeks. New Byth and Garmond were better served. The GARMOND new supply is giving every satisfaction, but it is a pity that pressure was not stronger to permit of water being taken into the houses on both sides of the street.

FYVIE VILLAGE.—All the pipes in connection with this supply were carefully cleaned out during the summer. This has proved a great success and a benefit to the residents.

ROTHIENORMAN is still insufficiently supplied, and it is a great pity something could not be done to provide a better supply.

Four samples of water were analysed. One of these was sent to the County Analyst. In connection with this two pump wells were properly cleaned out and protected.

Drainage.—New Byth is the only Special District. This system is in good working order and requires no attention.

One school and two schoolhouses had proper sanitary fittings provided as also had one manse, one police station, two farm houses and two cottar houses.

Infectious Diseases.—The cases notified were—Scarlet Fever, 16; Diphtheria, 5; Pneumonia, 6; Erysipelas, 7; Ophthalmia Neonatorum, 2; and Acute Poliomyelitis, 1. Seventeen cases were removed to hospital.

Dairies.—At present there are 30 dairies on the register. All these places have been visited once a month and found in a satisfactory condition. The system of milk examination which has been carried on by the Inspector for a number of years will be discontinued after the new regulations are in working order, as it will be the duty of the Veterinary Inspector to attend to this.

Slaughter-Houses.—The two slaughter-houses have been regularly visited and found in good order. Only one of these places has been in use during the year. Vans from Turriff, Inverurie and Meldrum supply most of the District with meat cutting out the local trade.

Unsound Food.—In all, 77 inspections were made under this heading and 1,222 lbs. of beef, 203 lbs. of mutton, 82 lbs. of fish and 49 lbs. of butter were destroyed as unfit for use.

The numbers of animals slaughtered in the slaughter-house were cattle, 185; sheep, 61; pigs, 18.

At farms—cattle, 2; sheep, 4. All this lot were found to be bad and were destroyed.

Schools.—The schools were all visited and found to be kept clean and the outside accommodation in good order.

Fyvie Schoolhouse was all re-drained and improved. A new water supply is being provided for Woodhead School and a new schoolhouse has been built for Ardmiddle.

Workshops.—These are all visited twice every year. There were no complaints and all the places including bakehouses were found clean and in good repair.

Burials.—Two cases were dealt with under Section 69. One a child which had been dead for a week before the Inspector received any information about it and the other case was an Old Age Pensioner.

Housing.—Two new cottar houses were built. Seven houses were repaired and improved, one house was closed, one new sleeping place was built, and two improved; plans for two new sleeping places have been submitted.

There are no congested areas in the District but the state of the villages is :—

New Byth.—83 houses; average rental, £4. The water supply and drainage are good. Twenty houses have water inside but there are only five water-closets in the village.

Cuminestown.—The lower half of the village is well drained and receives the best advantage of the water supply. There are 116 houses occupied with an average rental of £4 10s. and the number of water-closets in the village is 20.

Garmond.—30 houses; average rental, £4. A new water supply was provided last year but the head of water is not sufficient for a water-carriage system. All the waste matter from these village houses is used up in the large gardens attached to them and on the village land.

Fyvie has a splendid water supply, but no drainage. The houses here are of a superior class and nearly everyone of the 27 houses are well provided with present day sanitary fittings.

Burial Grounds.—The seven burial grounds were visited and found to be well kept and in good order.

I am, Gentlemen,

Yours faithfully,

(Signed) A. B. Findlay.

Turriff, 23*rd February*, 1926.

VI.—ABERDEEN DISTRICT.

To the Scottish Board of Health,
Council of the County of Aberdeen,
and the Aberdeen District Committee.

Gentlemen,—In compliance with the Scottish Board of Health's circular of 30th December, 1925, I have pleasure in submitting my Annual Report on the sanitary conditon of the District, and particulars of the work done in connection with the same during the year 1925.

In the Board's circular referred to particulars are asked to be given regarding the number of dry-closets, privies, privy-middens and ashpits, and also the number of houses without water supply and sink inside the house in populous parts of the District. I regret, however, that owing to pressure of work I have as yet been unable to overtake this, but, time permitting, I hope to do so within the next month or thereby.

Nuisances.—Twenty complaints were received during the year, and these were duly attended to.

The number of intimations served totalled 168, and the number of the various defects included in these was 381.

The improvements and repairs asked for in the intimations served were fairly well attended to, although, as is usual, it required a fair amount of persuasion in one or two cases to get the work carried out.

The following are the details of the more important improvements and repairs carried out. Thirty-nine wash-down w.c.'s were erected in place of dry-closets, and at 6 properties fully equipped bathrooms were provided; one property had additional w.c. accommodation erected, and at 15 properties repairs to w.c.'s were made; 16 houses had water supply and sink fitted up inside the house; 2 ashpits were renewed and 2 repaired; 2 roofs had to be entirely renewed, and 3 others repaired; 7 floors were renewed and 10 repaired; the windows of 5 houses were renewed, and at 4 repairs were carried out.

Sanction has now been given for the erection of a public convenience in Auchmill Road, Bucksburn, which will be carried out in due course.

Accommodation of a similar kind is badly required within the Culter Special District.

Water Supply.—During the year, I had 14 samples of water analysed by the County Analyst. Six of the samples were reported as being of bad quality, 4 fair, and 4 good.

Four new water supplies were provided, and 5 others were improved.

There are a large number of water supplies in the more rural parts of the District which are very poorly protected, and the details of a rather bad case are worthy of mention. The supply in question came by gravitation from a concrete cistern in a field some 50 yards distant from the house. Nothing was suspected by the occupants until the water began to have an unpleasant taste and odour. The top of the cistern was practically level with the surrounding ground and covered by means of stone slabs, one of which had a damaged corner. When the slabs were removed, several carcases of rats, moles and mice, all in a very advanced state of decomposition, were found floating in the water. It is not an uncommon occurrence to find a dead mole in a well, but in all my experience this was the worst I had ever seen. The occupants of the house were naturally very much upset at what was discovered, but I am glad to say no case of real illness occurred.

The work in connection with the augmentation to the supply to the Culter Special District is now complete, but owing to the presence of hydroxide of iron in the water a process of filtration will have to be adopted. Extensions to the mains had to be carried out in connection with the erection of new houses in Cults Special District. The houses in the higher part of Kirkbrae have now got an ample supply, a new 4-inch main having been laid and connected to the high service main.

The village of Newmachar is now formed into a Special Water and Drainage District. The whole of the work in connection with the construction of the storage reservoir, water mains, sewers, septic tank and filter was finished and the water turned on a few days before the close of the year. I may add that one or two of the parties who were rather inclined to be against the scheme, are now showing a good spirit and are already making arrangements for having the water taken into their houses.

Drainage.—Owing to the building activity in Cults Special District, several extensions had to be carried out.

A new 8-inch sewer and septic tank were constructed in Dyce Special District.

In the Waterton Special District a new sewer and an extension to the water main were carried out in Waterton Road, and the whole of the houses in this road were re-drained and provided with w.c. and water supply.

During the year new drainage systems were laid down in connection with 42 new houses, and at 30 old houses where the drainage was defective, these were entirely renewed and modernised. Repairs to the drainage of 14 properties were carried out.

In the course of the year 92 smoke tests were applied.

The whole of the houses comprising the village of Waterton, Parish of Echt, and owned by Lord Cowdray, have now been drained and sewered. The houses west of the Lyne of Skene Road have each had wash-down w.c.'s fitted up in lieu of the privy—18 w.c.'s in all. The sewage, before being discharged into the stream at the rear of the village, passes through a septic tank and double filter. Owing to insufficient fall it has been impossible to introduce w.c. accommodation for the houses east of the Lyne of Skene Road.

Extensive improvements have been and are still being carried out in the village and immediate neighbourhood. When the scheme is finished, the village will be one of the prettiest and most up-to-date in the County.

Satisfactory progress is now being made in connection with the forming of the Mannofield area into a Special Water and Drainage District.

Housing.—It will be seen from the figures given below that building activity still continues in the District. Had there been a reduction in the price of building materials instead of the increase that took place, there is no doubt but what a number more would have been erected. Not one single house was built for letting purposes. Thirteen houses were built for purposes of sale, 2 for estate workmen, 2 by the Committee for this District for men in their employment, and the remainder as owner occupier.

The following Table shows the number of houses built during the year, and those in course of erection at 31st December:—

	Stone.	Brick.	Concrete.	Other Materials.	Total.
Subsidy houses built .	24	3	7	1	35
In course of erection .	18	—	5	—	23
Other houses built . .	14	—	—	5	19
In course of erection .	5	4	—	1	10
Total . . .					87

The District Committee have again a building programme in hand, the contracts for which are now settled, and building operations are to commence early in the year. Twelve semi-detached houses are to be built for their employees at the Rocks of Balmedie Quarry. One block of two cottages is to be built on the Committee's ground near Broadstraik, Skene, and two tenement blocks of six tenants each in Mugiemoss Road, Bucksburn. The Skene and Bucksburn houses are to be let to parties either resident or working in the District. New houses are very badly required in the Bucksburn District, and although the new houses mentioned will not go far to relieve the situation it is always a step in the right direction. There are a number of old properties in the District that ought to be closed, if other accommodation could be found for the tenants.

Repairs and improvements were carried out at 118 houses. Two houses which had become dangerous were voluntarily closed and thereafter demolished. Five old houses which were in a bad state of repair and decay were completely gutted out and thereafter reconstructed.

Dairies.—Thirteen were added to the Register and 18 removed, leaving a total of 315 registered dairymen in the District at the end of the year. Three hundred and seventy-one inspections were made, and the following renewals and repairs were asked for and duly attended to. One new byre was erected, and one re-roofed; 14 byres had passages and channels renewed, and 4 were repaired; the stalls of 9 byres were lifted and relaid, and 4 were reconstructed: the forestalls of 10 byres were renewed, and 7 had repairs; 8 byres had additional light and ventilation provided; 4 new milk stores were erected, and 3 milk houses had repairs carried out.

Several parties were verbally warned regarding inattention to cleanliness, and in 7 cases I found it necessary to serve letters of warning, but in none of the cases was further action necessary.

An application on behalf of the Rowett Research Institute to sell Grade A (Tuberculin Tested) Milk was granted in the month of August. The herd which consists of 12 pure Ayrshires is certainly not large but is very select.

Mr. Paton, proprietor of the Estate of Grandholme, has recently erected at the farm of Mains of Grandholme, a new dairy byre, milk store, &c., on the Denmark principle. Everything is so constructed that cleanliness can be maintained with the minimum of labour, but in doing so I am of the opinion that they have sacrificed the comfort of the animal. Owing to the shortness of the stall, and the great depth of the channel, the cows to all appearance are afraid to move their feet more than a few inches in either direction.

If the results of the samples of milk taken by the City Health Department for the purpose of ascertaining the standard of purity can be taken as a fair indication as to what is taking place in the dairy trade, then the figures go to prove that a steady improvement year by year is taking place.

Infectious Diseases.—The number of cases notified during the year (not including tuberculosis) was 139, as against 167 for the previous year, and 89 patients were treated in Hospital, as against 120.

The following are the numbers and nature of the cases notified for the years 1924 and 1925:—

	1925.	1924.
Diphtheria	38	24
Scarlet Fever	57	101
Typhoid Fever	3	—
Puerperal Fever	3	—
Erysipelas	10	8
Pneumonia	26	31
Ophthalmia Neonatorum	—	3
Measles	2	—

The number of cases in the various parishes were :—

Parish.	1925.		1924.
Newhills	57	...	74
Newmachar	22	...	28
Echt	14	...	12
Oldmachar	11	...	19
Belhelvie	9	...	1
Peterculter	7	...	13
Fintray	6	...	3
Drumoak	5	...	—
Dyce	4	...	16
Skene	3	...	—
Kinellar	1	...	1

There were also 4 cases of suspected Scarlet Fever removed to Hospital for observation.

Ninety-eight houses and 103 sets of clothing and bedding were disinfected.

Workshops.—Seventy-two inspections were made and three notices were served—two for lime-washings and one for w.c. and urinal in place of privy, all of which were duly attended to.

Food Inspection.—Eighty-six inspections were made and 126 lbs. of pork were seized as unfit for human food.

Offensive Trades.—A licence was granted in November to the Aberdeenshire Bacon Curing Factory, Ltd., for the slaughtering of pigs at the Company's factory at Dyce, on Tuesday, Wednesday and Thursday in each week.

The premises at Persley recently acquired by Messrs. William Murray & Son for the purpose of converting into a Tallow Melting Factory have now been reconditioned and tallow melting begun.

I am, Gentlemen,

Your obedient servant,

(Signed) William Park,
County and District Sanitary Inspector.

7, Bon-Accord Square,
Aberdeen, 12*th March*, 1926.

VII.—ALFORD DISTRICT.

To the Scottish Board of Health,
the Council of the County of Aberdeen,
and the Alford District Committee.

Gentlemen,—In terms of Section 15 of the Public Health (Scotland) Act, 1897, I beg to submit the following report on the sanitary condition of this District for the year ending 31st December, 1925.

Water Supply.—The water supplies in the Special Districts continue, under normal conditions, to meet the requirements of these places, and no shortage of water was experienced in any of them during the year. All the systems are maintained in good order. In other parts of the District improvement continues to be made—a considerable number of dwelling-houses were provided with new gravitation supplies. Two samples of suspected water were analysed and reported as unfit for domestic use.

Drainage.—There are no Special Drainage Districts. The question of the drainage of Alford Village is still engaging the attention of the Committee. Throughout the District a number of drainage systems were overhauled, and in several cases completely renewed.

Nuisances.—All nuisances coming under my notice were dealt with either by service of intimation or verbally. Ten complaints of nuisances were received and all were dealt with satisfactorily. In the village of Alford, which is the most closely built centre in the District, 14 dry closets have been converted to the water carriage system within the last three years, and the following particulars show the conditions prevailing in this village at the end of the year :—

(1) Number of water-closets serving	2 tenants	12
,, ,,	3 ,,	6
,, ,,	4 ,,	—
,, ,,	5 ,,	—
(2) Number of dry-closets serving	2 ,,	19
,, ,,	3 ,,	2
,, ,,	4 ,,	—
,, ,,	5 ,,	—
(3) Number of privy middens serving	2 ,,	1
,, ,,	3 ,,	—
,, ,,	4 ,,	—
,, ,,	5 ,,	—
(4) Number of ashpits serving	2 ,,	4
,, ,,	3 ,,	3
,, ,,	4 ,,	5
,, ,,	5 ,,	8
(5) Number of houses without water supply and sink within the house		69

Scavenging.—There are no Scavenging Areas in the District. The removal of ashpit refuse in the villages is very irregularly attended to. The formation of the village of Alford into a Special Scavenging Area is meantime under consideration.

Special Inspections.—These took place in connection with all cases of infectious disease, also where improvements in connection with water supplies, drainage, or other housing repairs were being carried out. A number of inspections were also made of premises where food was sold, and no cause for complaint regarding the condition of any of these places was found.

Housing.—Under the Housing (Inspection of District) Regulations, 1910, eighty-eight houses were inspected. Two were closed as being unfit for human habitation. Four new houses were erected, two of them being subsidy houses. All were built of stone and lime, and are of a substantial nature.

Slaughter-Houses.—There is no change in the number of licensed slaughter-houses. Regular inspections were made and no cause for complaint was found.

Schools.—The inspection of school premises was carried out as in former years, and considerable improvements continue to be made. There are, however, several schools where the latrines are not satisfactory. Steps are being taken to have these attended to.

Dairies.—Up to the present, there are no dairies in the District. Applications for registration are now being made under the Milk and Dairies (Scotland) Act, 1914.

Burial grounds.—All the burial grounds inspected were found in decent order. One burial was undertaken under Section 69 of the Act. The cost incurred was subsequently recovered.

I am, Gentlemen,

Your obedient servant,

(Signed) JAS. ALLANACH,
Sanitary Inspector.

Alford, *8th March*, 1926.

Statement by Sanitary Inspectors of Proceedings under the Public Health and other Acts during 1925.

		DEER.	ELLON.	GARIOCH.	DEESIDE.	TURRIFF.	ABERDEEN.	ALFORD.	HUNTLY.	TOTAL.
I. *Nuisances.*	Complaints received	5	45	10	6	14	20	10	6	116
	Intimations served under Section 19	47	8	47	24	43	168	14	27	378
	Notices served under Section 20	5	...	2	...	...	...	...	...	7
	Cases in which legal proceedings were taken	...	...	..	...	...	..	...	...	...
	Do. do. successful	..	...	...	...	...	...	...	...	...
II. *Workshops.*	Inspections	63	87	81	103	134	72	98	31	669
	Notices served under Section 2 (3) of Factory and Workshop Act, 1901	...	..	...	...	...	3	...	...	3
	Cases in which legal proceedings were taken	...	...	..	...	...	...	...	...	...
	Do. do. successful	...	...	...	...	...	...	...	...	...
III. *Tents and Vans.*	Inspections	2	...	2	4	10	...	...	1	19
IV. *Underground Dwellings.*	Reported to Local Authority	...	...	...	..	...	...	...	...	...
	Notices to Owners (Section 74)	...	...	...	...	...	...	...	...	...
	Cases in which legal proceedings were taken	...	...	...	...	...	..	...	...	...
	Do. do. successful	...	...	...	...	...	...	...	...	...
V. *Common Lodging-Houses.*	On Register at 1st January, 1925	1	...	..	...	...	...	...	..	1
	Registered during year	...	...	...	...	...	...	...	...	...
	Renewals of Registration	...	...	...	...	...	...	...	...	...
	Removed from Register	...	...	...	...	...	...	...	...	...
	On Register at 31st December, 1925	1	...	...	...	...	...	...	...	1
	Common Lodging-Houses belonging to the Local Authority	...	...	...	...	...	...	...	...	...
	Inspections between 8 a.m. and 10 p.m.	8	...	...	...	...	...	...	..	8
	Inspections between 10 p.m. and 8 a.m.	...	...	...	...	...	...	...	..	...
	Intimations of irregularities sent to keepers	...	...	...	...	...	...	...	...	...
	Cases of Infectious Disease reported to Medical Officer (Section 97)	...	...	...	...	...	...	...	..	...
	Unregistered premises dealt with	...	...	...	...	...	...	...	..	...
	Cases in which legal proceedings were taken (breaches of Bye-laws, &c.)	...	...	...	...	..	...	...	..	...
	Do. do. do. successful	. .	..	...	...	...	...	...	..	...
VI. *Houses Let in Lodgings.*	On Register at 1st January, 1925	...	...	...	...	...	...	...	...	...
	Registered during year	...	..	...	...	...	..	...	..	...
	Removed from Register	...	...	...	...	..	...	...	..	...
	On Register at 31st December, 1925	...	..	...	..	...	...	...	..	...
	Inspections	...	...	...	...	...	...	...	...	...
	Cases in which legal proceedings were taken	...	...	...	...	...	...	...	...	...
	Do. do. successful	...	.	...	...	...	...	...	...	...
VII. *Infectious Diseases.*	Visits of inquiry, &c.	233	44	120	78	54	169	124	40	862
	Patients removed to hospital	154	28	42	32	18	89	47	20	430
	Persons removed to house of reception	...	...	...	...	...	...	...	...	...
	Notices served under Section 50 (2) ... ... Notices served under Section 53 (2)	120	...	33	60	27	72	4	17	333
	Intimations to Education Authority, Teachers, &c.... ..	155	9	60	23	18	102	52	29	448
	Houses or premises disinfected...	141	29	50	37	21	98	45	24	445
	Sets of clothing, bedding, &c., disinfected or destroyed ...	163	29	60	55	42	103	56	30	538
	Cases in which legal proceedings were taken	...	...	...	...	...	...	...	...	...
	Do. do. successful	...	...	...	...	...	...	...	...	...
VIII. *Burials.*	Burials undertaken in terms of Section 69	1	...	1	1	2	...	1	...	6
IX. *Dairies, Cow-sheds, and Milkshops.*	On Register at 1st January, 1925	45	79	60	22	30	320	...	34	590
	Registered during year	3	2	4	...	...	13	...	1	23
	Removed from Register	...	...	...	2	...	18	...	...	20
	On Register at 31st December, 1925	48	81	64	20	30	315	...	35	593
	Inspections	65	116	151	136	193	371	...	50	1,082
	Contraventions of Orders or Regulations dealt with ...	1	7	8	2	...	7	...	4	29
	Cases in which legal proceedings were taken	..	...	...	...	...	...	...	...	...
	Do. do. successful	...	...	...	...	...	...	...	...	...
X. *Slaughter-Houses and Offensive Trades.*	Applications under Section 32 for sanction to establish ...	...	...	...	...	...	.	...	...	...
	Applications granted	...	...	..	...	...	...	...	...	...
	Applications under Section 33 for licence or renewal of licence	12	6	4	9	2	1	3	2	39
	Applications granted	12	6	4	9	2	1	3	2	39
	Public slaughter-houses (if any) belonging to Local Authority	...	...	...	...	...	...	...	...	...
	Private slaughter-houses	12	6	4	9	2	1	3	2	39
	Unlicensed slaughter-houses dealt with	...	...	...	...	...	...	...	...	...
	Inspections of slaughter-houses	295	260	105	226	26	22	139	27	1,100
	Inspections of other offensive businesses	4	...	...	...	...	7	...	...	11
	Number of such *other* offensive businesses at 31st Dec., 1925	1	...	...	...	...	...	...	...	1
	Cases in which legal proceedings were taken (breaches of bye-laws, &c.)	...	...	...	...	...	...	...	...	...
	Do do. successful	...	...	...	...	...	...	...	...	...
XI. *Unsound Food.*	Inspections under Section 43	131	300	99	40	77	77	43	35	802
	Seizures of unsound food	1	8	18	10	...	...	...	1	38
	Animals or carcases or articles of food destroyed with owner's consent by or at the instance of the Sanitary Inspector	...	8	18	10	20	...	...	1	57
	Cases in which owners of unsound food were prosecuted ...	...	...	...	...	...	...	...	...	...
	Convictions in connection with above cases	...	...	...	...	...	...	...	...	...
XII. *Sale of Food and Drugs Acts.*	Samples procured for analysis	...	...	...	...	...	...	...	...	...
	Certified to be genuine	...	...	..	..	...	...	...	...	...
	Certified to be adulterated	...	...	...	...	...	...	...	...	..
	Cases in which legal proceedings were taken	...	...	...	..	..	...	...	...	...
	Do. do. successful	...	...	...	...	...	...	...	...	...
XIII. *Rag Flock Act, 1911.*	Samples procured for analysis	..	...	...	...	.	...	..	...	...
	Certified to conform to Board's standard	..	. .	...	...	...	...	...	...	...
	Certified not to conform to Board's standard	...	...	...	...	...	...	...	...	....
	Cases in which legal proceedings were taken	...	...	...	...	...	...	...	...	...
	Do. do. successful	...	...	...	...	...	...	...	...	...
XIV. *Bye-Laws.*	Inspections in carrying out bye-laws relating to :—									
	(*a*) Pig-styes	...	...	...	...	...	43	...	...	43
	(*b*) Public conveyances	...	...	...	...	...	...	...	...	...
	(*c*) Buildings	...	...	...	...	...	148	...	...	148
	(*d*) Cleansing in special Scavenging districts	...	...	12	23	...	16	...	..	51
	(*e*) Other sanitary matters	...	...	...	...	...	...	...	...	...

APPENDIX II.

Report for the year ended 31st December, 1925, on proceedings taken as regards the Inspection, Improvement, and Closure of Dwelling-houses.

A.—Housing, Town Planning, &c., Act, 1909.

	Deer.	Ellon.	Garioch.	Deeside.	Turriff.	Aberdeen.	Alford.	Huntly.	Total.
1. Number of dwelling-houses inspected under and for the purposes of Section 17	145	154	85	85	57	281	88	56	951
2. Number of dwelling-houses which, on inspection, were considered to be in a state so dangerous or injurious to health as to be unfit for human habitation ...	...	2	6	3	8	4	2	2	27
3. Number of representations made to the Local Authority with a view to the making of Closing Orders ...	...	2	1	...	...	1	...	1	5
4. Number of Closing Orders made	...	2	...	...	...	...	...	1	3
5. Number of dwelling-houses the defects in which were remedied without the making of Closing Orders ...	6	40	38	3	7	1	6	12	113
6. Number of dwelling-houses which, after the making of Closing Orders, were put into a fit state for human habitation	...	...	...	...	...	3	...	...	3

B.—Housing, Town Planning, &c. (Scotland) Act, 1925.

	Deer.	Ellon.	Garioch.	Deeside.	Turriff.	Aberdeen.	Alford.	Huntly.	Total.
1. Number of dwelling-houses in respect of which notices were served under Section 3 (1)	...	...	8	...	...	127	...	23	158
2. Number of dwelling-houses rendered fit for human habitation under Section 3 (1)	...	...	15	...	...	118	...	19	152
3. Number of dwelling-houses in respect of which Closing Orders became operative under Section 3 (1)	...	...	...	...	...	2	...	...	2
4. Number of dwelling-houses rendered fit for human habitation by the Local Authority under Section 3 (2)	...	...	...	...	...	...	...	...	...
5. Number of cases where intimations were given under Section 20 (1) as to insufficient water-closet accommodation :—									
(*a*) Cases where requirement complied with by owners	3	2	17	5	5	25	...	7	64
(*b*) Cases where works carried out by Local Authority after failure of owners to do so ...	...	...	...	...	...	...	...	...	...
(*c*) Cases still pending	1	...	3	1	...	3	...	...	8
6. Number of houses of (*a*) one apartment and (*b*) two apartments for the erection of which the consent of the Local Authority has been given in terms of Section III	...	...	...	...	...	...	...	...	...

C.—Housing, Town Planning, &c. (Scotland) Act, 1919.

	Deer.	Ellon.	Garioch.	Deeside.	Turriff.	Aberdeen.	Alford.	Huntly.	Total.
Number of cases where notices were served under Section 40 (1) to provide dwelling-houses with water supply :—									
(*a*) Cases where requirement complied with by owners	...	1	6	3	...	19	2	8	39
(*b*) Cases where works carried out by Local Authority after failure of owners to do so ...	...	...	...	...	...	...	...	...	...
(*c*) Cases still pending	...	...	1	1	...	4	1	2	9